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**GLEANINGS IN
BEE CULTURE**

A JOURNAL
DEVOTED
TO BEES
AND HONEY
AND HOME
INTERESTS

ILLUSTRATED
SEMI-MONTHLY

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A SHORT VISIT from a long man gave me a very pleasant evening and morning. It was W. Z. Hutchinson, wandering over the land with his beloved camera. But he didn't "camer" any thing here. Rainy.

COGGSHALL is right. A hat-brim wide enough to shade the veil is good. The most trying time is after 6 P. M. At such times I often have to raise my arm to shade my veil before I can see eggs. With a broad brim, tipping the head to one side would more easily accomplish the same purpose.

I'M GLAD, Bro. Doolittle, to hear you say, p. 577, that you were not asking those questions in a censorious way. But you seemed to be making me a sinner above all others, and piling on my shoulders the accumulated guilt of the whole fraternity for the past 25 years. And I'm waiting to have you tell us why you waited till this late day to call attention to the error. Or have you always called Italians maroon, and said they weren't yellow?

THE CALIFORNIA echoer, p. 567, thinks my intellectual machinery out of gear because I don't see that *squaw* is a more degrading term than *Indian*. The gearing is all right, Rambler, only it's adjusted for this locality, where we don't have any Indians, and go by the dictionary, which makes *squaw* the correct term to apply to any Indian woman or girl. With you, it is evidently applied only to the low-down trash; but I don't know what is your corresponding term for a good and pure Indian woman.

GLAD TO SEE Rambler touch up that idea of selling a short-weight section and having the customer think he's getting a pound. One great trouble is that we can't produce sections that run the same weight; and if we could get them all just alike, the next season would make them heavier or lighter. [Say, doctor, I've a notion to take you to York State so that you can have your eyes opened on the ten-

cent-section matter. Seeing is believing, you know. A great scheme, that, to take you and Rambler off together.—ED.]

THAT TEST of A. J. Wright, p. 574, for bees' feet, is very bright, and I think the white paper would show that the bees' feet have been slandered. How should the feet be dirty when they touch only the air and the flowers? But Mr. Wright is away off when he attributes the dark color to the habits of us bee-keepers. Isn't every thing just as black in a nest in a bee-tree where no bee-keeper has interfered? If you say it's black because man has not interfered to prevent the blackness, I may ask, "If you should clean the bottom-board every day would you prevent the darkening of the brood-combs?"

I'VE A SUPER of tall sections that are beautiful to behold, reared in a T super with fences, and a rim to raise the super. I'm just a little bit afraid I may have to change to that style, but I'm not going to gratify a certain editor by telling him so. [It is a little surprising how the plain section and fence are vindicating themselves in the opinion of unprejudiced persons. From the very start, after I saw what the bees said of them, I knew they would be able to more than hold their own, and they are. But it is not good policy to publish all the good reports, as such a policy would be construed as a desire on the part of the manufacturer to boom his own wares.—ED.]

YOU SAY, Mr. Editor, that I don't tell you whether the season at Marengo is a failure. Well, it's a strange season. A spurt in June didn't last, and toward the latter part of the month it looked as if feeding might be necessary in the Wilson apiary. Clover was abundant, but the dead-and-alive condition continued till about July 20, since which time there has been some storing; and at this date, Aug. 8, clover seems just as good as ever. The slow yield may continue, or it may stop to-morrow. If it should stop now, there will be in the home apiary 25 pounds or more to the colony, much of it unfinished, and much less in the Wilson apiary, which in other years has always been the best. The little Hastings apiary is working altogether for increase, but seems to be getting a good deal of honey.

YOU SPEAK, p. 573, of having some one with the necessary micrometer measure dorsata, Mr. Editor. When you find the micrometer, couldn't you get the difference in diameter between worker-cells freshly built and those in combs 25 years old? I think the chief reason why British bee-keepers think comb too old after five years is because they think the cells become too small, and I doubt if there's any appreciable difference. [We have micrometers now that will measure the inside diameter of any worker-cell to the ten-thousandth of an inch. Bring on your comb 25 years old, and we will caliper it, and show if there is any difference between that and comb recently built. But, say; the cells of some bees are larger than the cells of others, by a trifle. How do we know that the bees of 25 years ago (probably blacks) built just the same size of cell that the bees of to-day do? How are we going to prove any thing by measuring?]—ED.]

TASTES DIFFER. Niver and other New Yorkers like to see on a plate a section of honey that is nice and dry, because no cells are filled next the wood. To me it looks far more luscious if the cut cells show, and it is surrounded by some of its own rich gravy. [When Niver presented his view I was inclined to think he was right; and now you have presented your notion, I have flopped again. There is no denying the fact that a chunk of dripping crystal honey has a sort of lusciousness about it that makes one's mouth water. A chunk of comb swimming in its own crystal sweetness reminds one strongly of the good old days gone by, and of how our fathers and grandfathers used to dish out honey in great chunks smeared "in its own rich gravy." Every one to his notion; and in saying this it is proper to remark that one can with plain sections and fences have either sort of feeling. If it is desired to have the cells filled clear out to the wood, then crowd the bees for room. If it is not desired, then give them another super as soon as the first one is pretty well under way.]—ED.]

I DON'T QUITE SEE, Mr. Editor, what you're getting at, p. 571, where you think larvæ in drone-cells must be first given to queenless bees to start queen-cells. Why, with the Doolittle plan it's the royal jelly, and not the size of the cup, that makes the difference. Why shouldn't they start in the drone-cells just the same as in the artificial cups? I know they will in worker-cells, for I've tried it. [No, sir, 'ee! That is where you are wrong, doctor, or at least I think so. Royal jelly is something to be desired; but you will find, I think, that a very large portion, if not a majority, of drone-cells having royal jelly in them would not be converted into queen-cells if placed in a colony with a normal laying queen. The Doolittle cell-cups, although they are artificial, have the shape and general appearance of *real* queen-cell cups; while the drone-cells sawn off are any thing but queen-cups. Why should they start with drone-cells? All I know is that we have tried it, and the bees having a queen do not take to

them; and, moreover, those who advocate the plan, or at least one who uses the method, speaks of being obliged to put these drone-cells with royal jelly, in *queenless* colonies to *get them started first*. But you know we are getting Doolittle cell-cups accepted in colonies having a laying queen. Does this not show that the *shape* of the cell has something to do with the matter? But, say; we have recently discovered that we can get Doolittle cell cups accepted having a larva and the *food of the ordinary* worker-cell in it, thus showing that royal jelly does not have so much to do with the matter as one might suppose. I say we have been successful, although we do not know that we shall always be. I'd like to see you get *drone-cells* with worker-larva food accepted, and worked into queen-cells. See answer to H. L. Jones, in this issue.—ED.]

I DON'T KNOW, Mr. Editor; but I think you're falsely accusing the bees' feet when you say, p. 575, "I have seen entrances of hives that were pretty badly smeared up with yellow, and have naturally concluded that this yellow was the so-called travel-stain, that came direct from the bees' feet." Now tell me, where did the bees get that dirt, that was so thick on their feet that it daubed the entrance? Yes, I've seen entrances daubed, and haven't you noticed that it's ten times worse at the entrance of a colony that's being robbed? When I've allowed bees to clean out supers, with an entrance for only one bee at a time, that entrance has become dark and sticky. I think it's the feces that the bees expel on reaching the open air, and the darkening of the combs is, as Cheshire says, from the contents of the bowels of the young bee in the cell. [Dirt from bees' feet! Did I say any thing about dirt? I did say that the entrances of many hives I noticed were yellowed up; and this yellow, I think, is pollen and not dirt. If you take a strong magnifying-glass, and look at a bee as it comes in from the field in pollen time, you may find it has pollen all over it, even on its feet. Now, why could not this pollen be smeared on the surface of white combs? If so, wouldn't this be real travel-stain? But methinks bees walking over the bottom of their bottom-boards, and over black combs, sometimes carry over the surface of their beautiful sections some particles that are not pollen. May be it is dirt. But granting all this, I am quite willing to concede that *some* of this discoloration may come from the feces the bees expel.—ED.]

"THE FACT that, in the generality of cases, the coloring of foreign matter goes clear through the cappings," say you, Mr. Editor, p. 575. Don't you think you'd better make that "generality" "minority"? In my sections that are darkened, I don't believe there's one case in a hundred where the cappings are dark clear through. At any rate, I do know this: Let a section that's capped white as snow remain on the hive long enough, especially in the center of the super, and it will become dark. Now, don't you believe the white capping still remains white, with a dark coating over it? But I don't believe the feet

have any thing to do with it. [No, sir. I firmly believe I was right in using the expression "generality of cases." Last winter I went over personally several thousand pounds of honey in our honey-room that had been bought from several different parts of the country; and if I remember correctly three-fourths of the so-called travel-stained faces showed on examination that the stain went clear through the capping. I believe that the average dark faces in comb are dark because they are dark all through; and yet I am willing to acknowledge that there is probably a travel-stain such as you speak of, the discoloration of which is only on the surface. That reminds me that Byron Walker was going to tell how to remove travel-stain—in other words, give us the secret of making a box that sells for 12 cts., sell for 14. He has already given me an inkling of the secret, but I prefer to let him give it himself when he gets to it. I will say this much: I think his plan will work.—ED.]

YOU'RE ON THE RIGHT TRACK, p. 582, in offering a premium for good working stock, Mr. Editor. If the same pains had been taken in that direction that have been taken for color, the average yield would now be more than it is throughout the country. The right way is for each bee-keeper to breed from his best stock, and in the whole lot there will be some great improvements. I've one queen whose bees have filled, in this year of failure, 100 sections, and are still pegging away. You may count that queen will be a breeder next year if we both live. [I believe that two-thirds of the queen-breeders of the country pay more attention to color and uniform markings than to honey-gathering qualities. I know this from correspondence I have had with the different breeders who, in extolling the merits of any one queen, will say, for instance, that she will breed large yellow queens of uniform markings. While I like to have beauty, and should be glad if we could combine it with utility, yet, after all, *utility* is what we should seek. You say you have one queen whose bees have filled 100 sections in a poor year, and are "still pegging away." Say, what will you take for that queen? I do not care whether she is leather-colored or yellow; but in order to reproduce her kind she ought to be pure Italian, pure Carniolan, or pure something, otherwise her queens would sometimes take after one progenitor and sometimes another. While you are about it, tell us how old she is, her pedigree, temper of her bees, their markings, and how they appear to winter. Any one who has a queen that is away ahead of the others for honey, and is still "pegging away," would do well to write me.—ED.]

J. W. B., Va.—The purity of Italian queens is judged wholly by the markings of the worker-bees. Drones from pure queens vary so that they form a poor criterion by which to judge the purity of the queens themselves. Three weeks would give enough time to test the purity of a warranted queen.



The days grow short, the nights grow long,
The harvest passes by;
The crop is short, and drones must move,
Lest all the workers die.

AMERICAN BEE JOURNAL.

The first page of the issue for July 27 has a view of the Dadant family—Mr. Chas. Dadant, his son Camille F., and three of the latter's sons, Louis C., Maurice M., and Henry C. It is a pleasure to look at even a picture of such a household, and we all owe Mr. York more than a vote of thanks for producing it so well. By the way, where are those girls Mr. Dadant told me about once?

Rev. L. J. Templin contributes a sermon on the need of taking bee-papers. It is an excellent summing-up of the way in which old methods are superseded by new ones. I have been so much interested in this talk that I dare not quote from it lest I take it all. A nickel can't be spent to better advantage than to send it to Mr. York and get a copy of his journal containing it. I wish Mr. Templin would tell us if there is not less reading done now, in the true sense of the word, than when he was a boy. Isn't it harder now to get people to read a paper that calls for thought than ever before? I believe it is. A good picture of Mr. Templin is given.

AMERICAN BEE-KEEPER.

Mr. Hill continues his interesting letters from Cuba. The insects of that island lead me to believe that a hybrid climate like ours, where Jack Zero reigns a good deal of the time, is preferable to one of perpetual heat.

C. Davenport says he does not attempt to sell honey-dew, as it would ruin the market. Nor does he feed it for winter stores, as it is unsafe food for winter; but for brood rearing in the spring and summer it answers as well as the best white honey, and by its use brood-rearing is advanced, and a larger crop of honey secured.

Hon. John Ruffin, U. S. C., in writing from Paraguay, South America, has the following to say relative to the bees of that country:

There are several kinds of wild bees in Paraguay, some of which build in subterranean holes, the rest in hollow trees. Two years ago a colonist made a trial to improve one of the latter by gathering them into a proper hive, apparently without satisfactory results. If not all, at least some kinds are said to be without a sting; but one, a black bee of medium size, attacks the intruder by clipping the hair as if cut with scissors.

Some years ago a German, von Gulich, introduced the European bee, and succeeded well, using modern hives according to Dzierzon's methods. His widow has continued this industry, and a few colonists followed with more or less success. Honey finds ready sale at good prices, likewise the wax, which is used extensively for making candles and matches.

Mr. K. Aoyanagi, of Japan, unites bees as follows :

"In uniting two colonies I place the uniting-box on the stand I want them to occupy, insert the screen division-board, and place the colonies on opposite sides of the screen, allowing them to remain thus for three or four days, when the division-board is withdrawn and the work is done. This I find the best method I know of; and if care is taken when putting the bees into the box, not to let a single bee from the opposite side to mix with the others, it may be done without the least quarreling or loss. For uniting swarms, they may be hived through the holes on opposite sides of the box; or an ordinary hive-body, with the screen board, will answer instead of the regular box; but in this case I confine the bees to the hive for two or three days, not permitting them to fly."

W

F. Greiner, in an interesting article on the disastrous wintering troubles last winter, admits he lost one-fourth of his bees. Those wintered outdoors suffered from diarrhea, and fell an easy prey. Chaff packing had but little to do with the result, as there was but little difference between those packed and unpacked. Locality had much to do with the trouble. In places only two miles apart, in some cases the bees were all wiped out, and in others they came through without loss. Apiaries on the summits of hills suffered more than those in the valleys, thus teaching us a lesson in humility. Mr. G. thinks he might have reduced the loss to five per cent by removing all the natural stores and substituting sugar syrup, but that would have involved so much work as to be practically out of the question. Much still remains to be learned on this subject.

W

Mr. Hill finds in Cuba a few of those who don't need a bee-paper in order to learn how to keep bees. He describes one of these "bee-butchers," as he calls them, as follows :

His hives stand flat upon the ground, and the sand has drifted far above the rotten bottom-boards. Rolls of moth-webs protrude from the entrances of hives that once contained a drone-laying queen or a laying worker, on a set of beautiful combs. He has charge of nearly 100 colonies, but does not know how many he has had, nor which colonies have swarmed. He has hived two that he "knows of" (and those on empty frames with 11 in a 10-frame body, and four out of the 11 without bottom-bars), but the rest of the swarms "all lit in them tallest trees," and he "couldn't git 'em." The honey season has arrived, and upon all colonies "that ain't strong enough" to take an upper story for extracting he gives a *half-story*, with sections. Extracting begins, and with two helpers he proceeds to the yard, opens a hive, removes two combs, carries them in hand to the tent, mashes and uncaps the greater part of their surface, slings out the honey, and starts to the apiary for two more frames of honey. He boastingly asserts that he, with but two boys only to assist, has extracted 27 gallons of honey in one day. But, "darn your bee-papers; I don't have to bother reading bee-books to know how to run bees." He says he contemplates making an exclusive business of honey production in the future, and is rigging up to manufacture foundation which will contain a cheaper material than beeswax: says he knows it will work, and that "the darned dealers have been charging" him "over 50 cents a pound for foundation

work of half paraffine," and that he knows "how to mix it as well as they do."



REARING QUEENS IN FULL COLONIES.

Starting Cell-cups by Natural Methods.

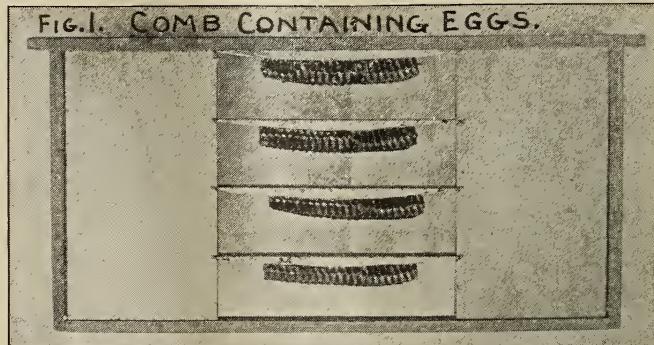
BY HENRY ALLEY.

For a good many years I have had no trouble in getting all the cell-cups made that I needed, and in a way most natural for bees to construct them. This is the way I do it :

We will suppose that there are eggs or larvae properly matured, from which bees will start queen-cells. The right age of eggs for this purpose is about 84 hours, reckoning from the time the eggs were deposited. Now, there is but one way to compel bees to start cell-cups, and that is by making them queenless. My way of preparing bees for this work is this:

I have a box, a duplicate of the regular brood-nest a full colony occupies, to the bottom of which is nailed wire cloth. Over this wire, at the ends, are nailed $\frac{1}{8}$ -inch cleats to keep the bottom of the box above any thing it is resting on, so that the air can be admitted freely at all times. A frame cover is made, and that also is covered with wire cloth. When ready for the bees I take the cover of the box and go to any strong colony in the yard, remove the sections or whatever covers the frames, and place the wire cover on the

FIG. I. COMB CONTAINING EGGS.



hive. Then the bees are smoked at the entrance to drive in as many as possible, and also cause them to fill their sacs with honey. I also drum lightly on the hive. Now, to put the bees in such a condition that they can be brushed from the combs into a box, and not all take wing, I use a small amount of tobacco smoke. I will say plainly that this boxing-up of bees as above can not be done without the use of tobacco smoke. If rotten-wood smoke is used, nearly all of the bees will take wing and be in the air quickly; but the to-

bacco smoke puts them in just the right condition to be handled to your liking. In fact, they can be handled about as conveniently as

a space of $7\frac{1}{2}$ inches between the pieces. The strips should be cut $7\frac{1}{4}$ inches long, and are kept in place by cutting notches in the wood $\frac{1}{8}$ inch deep, using four pieces of wood to each frame, as shown in the illustration. On each piece of wood a strip of comb is placed. Two of the frames, containing eight pieces, are placed in a hive having no bottom or top. The hive is then filled with combs containing honey and pollen, but not a particle of unsealed brood; in fact, no brood at all should be used. Now jar the bees down to the bottom of the box by a sudden strike on the floor,

and quickly place the one containing the combs over it and put on the cover. The bees will at once run up and take possession of the

so many beans. When the queen is found, the cover is placed on the box, and the bees left alone for several hours, or until they fully realize their queenless condition. Then the eggs are given them in this way: Cut from any brood comb, containing eggs that have just hatched, a piece about four inches square. Cut this piece in strips, running a knife through alternate rows of cells. Cut off about half the depth of the cells, and insert the fire end of a common match in each alternate cell, twirling it between the thumb and finger, thus destroying the eggs. Have at hand a shallow pan containing equal parts of beeswax and resin made quite hot over a kerosene-stove, and dip in the mixture the edge of the comb in which the eggs *have not been destroyed*, and

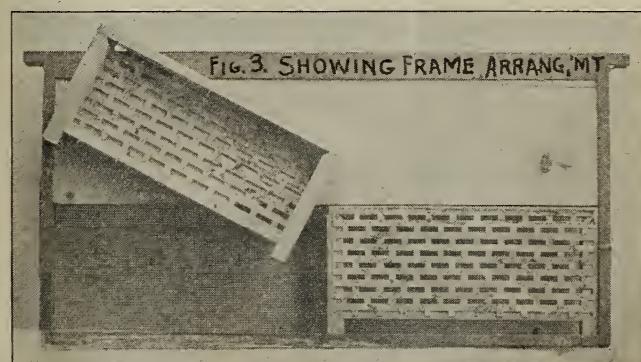
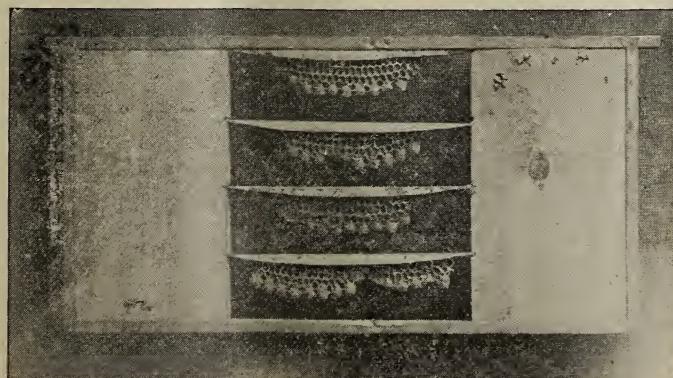


FIG. 2. CONTAINING QUEEN CELLS.

combs. If this is done in the morning the bees can be placed at night on the stand they previously occupied, and at once be released.

I first place a bottom-board on the stand, and then raise the hive and place it thereon. By being careful, no bees are crushed. Many bees rush out and will take wing, but no harm will be done, as they soon return and enter the hive. While the bees are confined after being given the eggs they must be supplied with water, and kept in a cool place, and in the course of 24 hours a cell-cup will

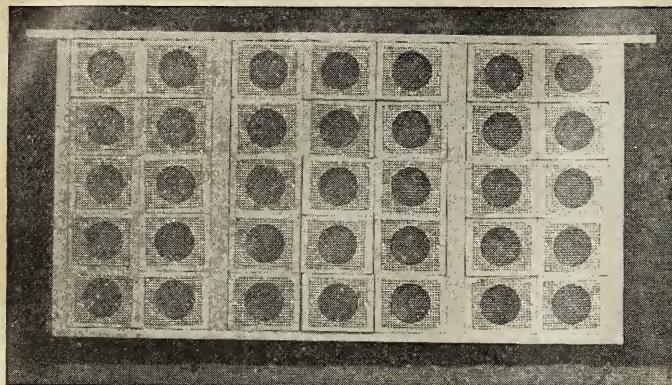


be started around each egg given them. Let the bees work on the cell-cups from 36 to 48 hours, after which they should be placed in

quickly place it on a stick as represented in Fig 1. The illustration shows a standard frame in which are two pieces of wood having

colonies having a queen not less than one year old.

Fig. 2 represents another standard frame. One half of this frame is filled with wood, but, unlike the one described in Fig. 1, the wood is nailed in the upper half of the frame, and not at the ends, as in No. 1, as will be seen. One side of the open space is covered with



wire cloth, and two smaller frames are used in this frame, having one of their sides covered with perforated metal firmly nailed to the wood. These frames are just $7\frac{1}{2}$ inches between the vertical pieces, and are notched at the top so the strips of wood to which the cell-cups are made are held in place. The cell-cups are removed from frame No. 1, and then placed in the smaller frames, which are then inserted in frame No. 2, with the open side toward the wire cloth; then the frame is placed in the center of a powerful colony of bees, and always between two frames of brood. The result is, in three days more there is as fine a lot of queen-cells as one ever saw.

Twelve days after the eggs are given the bees, the cells should be transferred to nuclei, or, what I consider much better, to a queen-nursery. As this part of my story is given in a small book which I give away to all who apply, I will not take the space here to describe it.

Now, Mr. Editor, I feel bound to say that, by this process, I have produced queens much superior to those reared under the swarming impulse.

To the inexperienced this method may seem fussy. All I can say is that no one can rear queens without doing much hard, pretty fine, and fussy work. There are many fine points connected with the above that one must get acquainted with by actual experience. These particular points can not be explained in one short article. Catch on to them by experience. That is the proper way to do. The cells illustrated were begun and finished by bees. There is nothing artificial about them.

Later on I will describe the queen-nursery and its uses; also many other things connected with the queen-rearing business.

Wenham, Mass.

[The method Mr. Alley gives is essentially the one he has used for years, I take it, with the exception that he has incorporated into the plan some changes, so that we have before us the latest revised method.

Fig. 3 shows another view of what is shown in Fig. 2. The next shows how the prepared drone comb-cells in No. 1 are finally drawn out and completed into queen-cells. This cut shows the Alley queen-nursery, to which Mr. A. briefly refers.

This nursery consists of an ordinary Langstroth frame having fitted into it square blocks of wood $\frac{7}{8}$ in. thick bored out in the center, and covered on both sides with wire cloth. Through one side or edge is bored a $\frac{3}{4}$ -in. hole, or large enough to receive a queen-cell. The point of the cell, when inserted, projects down into the large opening; and when a

young queen hatches she is confined until such a time as the apiarist can use her to the best advantage in some nucleus or queenless colony. To supply the young queen with food there is a plug of Good candy inserted in a hole just opposite the queen-cell, so the young virgin can be confined a day or so if necessary.

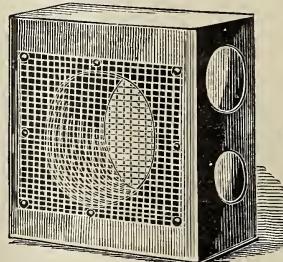
This queen-nursery, containing 35 little cages, each supplied with a queen-cell, is inserted in any strong colony. Whenever a virgin is desired, all one has to do is to go to this nursery, take

out the oldest virgin, and introduce her according to the methods that are recommended in the text-books.

This queen-nursery is the same thing as is used by Doolittle and ourselves, and is doubtless the best of any thing heretofore devised for the purpose.

The method of rearing queen-cells from drone cells, as recommended by J. D. Fooshe and H. L. Jones, is the same as the Alley method above described, with this difference, that any larvæ in the drone-cells must be removed, and each alternate cell be supplied with a worker larva from a select queen. Aside from this, the two methods are practically the same.

We have tried the two plans, the Alley and the Doolittle; but, taking every thing into consideration, we prefer the latter method with artificial cell-cups. The only possible objection to it would seem to be the making of



the cups; but when one learns how, that is a very small objection; for he can make them, as I have pointed out, at the rate of 150 an hour; and then the Doolittle method does not require that the cell's shall *first* be placed in queenless colonies to get them started. They may be placed right in the brood-nest of any colony, providing, of course, that said colony is stimulated daily if honey is coming in. At this time of year we prefer colonies having queens that they are about to supersede. Such colonies always take kindly to the Doolittle cell-cups, as the rearing and completing of them seems to be an act of simple preservation, and that is to supply themselves with a mother to take the place of the one that is about to be superseded.

But if comparing these two methods I do not wish to disparage the Alley method in the least. That he rears good queens, there can be no question, because some of the finest we have ever had were reared by Mr. Alley, presumably by this method. Two, yes, three, of his breeders we have found to be good ones, and we are breeding from them just as we are breeding from our own and Doolittle's stock.
—ED.]

NIVER ON THE WITNESS-STAND.

Thin Sections; Profits on a Colony of Bees; Coggshall's Big Yield of Honey; Proper Size of a Brood - nest for the Buckwheat Country; Coggshall's Axioms

Continued from last issue.

R.—A moment ago, Niver, you put in a proviso regarding the thickness of combs. What width of sections do you prefer for your ideal boxes?

N.—Our boxes are scant $1\frac{1}{2}$ in the widest place, and there is an inset that leaves the top and bottom $1\frac{1}{4}$ scant.

R.—Yes, I remember you do not use, strictly speaking, no-beeway sections, although you were a user of fences.

N.—A half bee space was in the sections and half in the fence; and, having a shallow cell, they will ripen and cap when it gets late in August, where our trouble all comes in getting our honey finished. They will cap and finish a good deal better in a shallow cell than they will in a deep one; therefore, in a thin section we get many more finished boxes than we do in a thicker section. Of course, you white-honey people have plenty of warm weather to finish your white honey, and have no trouble about getting the honey capped at the last end of your flow. Not so with the buckwheater, for when the cool weather is coming on toward the first of September it is difficult to get the bees to cap the honey in the sections; and we have to work differently from what you do in order to get that done.

R.—Yes, I understand what you mean—you are a buckwheater.

N.—As a honey-producer, yes; and that fact accounts a good deal for our preferences as to bees. We like black bees and Carniolans better than your yellow-ocher fellows.

R.—What is Coggshall's preference?

N.—Any thing that will sting, and produce honey.

R.—I fully believe that.

N.—Laying joking aside, and taking Coggshall's axioms, the four leading characteristics named in their order are: 1. Locality; 2. The man; 3. The bees, or type of bees; 4. Supplies.

R.—Yes, that is Coggshall all over.

N.—Well, he would not have it that way if it did not *pay* him.

R.—His fine dwelling, his barns—in fact, every thing about his place (except bee-supplies), all go to show that it does pay him. But you said a moment ago, Niver, that, if you wished to fatten your pocketbook, you would select the middle box as your standard. How much do you calculate to make off from a colony of bees, on an average?

N.—Well, I can't tell; but to go into details, I have averaged up five or six years, and with an almost total failure one year included, and I find I have averaged between \$6.00 and \$6.25 for the five years, per colony, spring count.

R.—My, oh my! that is better than they can do around here.

N.—Well, I am a buckwheater. My best colony last year gave me 175 boxes, or sections (*finished* sections, mind you), which averaged 11 cents apiece, or \$19.25 in all. I see brother Dadant, with his "barns," is satisfied with \$3.50 per colony.

R.—Yes, I believe that is his figure; but how much does Coggshall get with his in that rough-and-tumble-get-there kick-off-super plan?

N.—Let me see. In 1897, if I am not mistaken, he figured up 116 days' work during the year, and sold 39 tons of honey—78,000 pounds; now figure out per day, please, if you want to find out what systematized work accomplishes.

R.—Wait till I figure. That's 672 pounds per day; and at the very low price of 3 cents this would make over \$20.00 per day; or, at 4 cents, nearly \$27.00. Say, look here, Niver; Coggshall will be after you for giving away his private affairs.

N.—Well, he called on me a short time ago when on his way to a sanitarium for treatment and rest. I think I can outrun him now, so I will let it go.

R.—Rest! I should think the man would need one. Does he always work at that race-horse break-neck speed that I saw him working at when I visited him two summers ago?

N.—When you were there? Why, he was taking a vacation then, and had plenty of time to spare.

R.—He must be a counterpart of that man Harry Howe.

N.—No, Harry is merely a *pupil*—an *apt* pupil. By the way, what is the matter with Harry's being our best man in New York for foul-brood inspector?

R.—That would be a tiptop idea; but I had been casting my best endeavor for Frank Boomhower, not knowing that Harry was a possible candidate.

N.—But Harry has been taking a course in bacteriology in Cornell, and is probably the best-posted man we have in the country to-day.

R.—He is in a fair way to be, no doubt.

N.—He is quick, agreeable, and, what is more, he understands the whole business from A to Z, scientifically as well as practically. If he is appointed I shall be satisfied — abundantly so.

R.—So shall I. But, say; a moment ago you spoke about the Dadant (or perhaps, rather, the Draper) barns. How did these strike you — or, rather, do you favor, up in your buckwheat country, such large hives?

N.—Morton's experience, and Coggshall's, shows that a buckwheater will get more honey per colony in an eight-frame hive, when run for comb honey, than he can in a larger hive ; and there is very little difference in manipulation, with us, between comb honey and extracted. The same manipulation produces like results.

R.—Did you ever try large hives?

N.—Morton started in with a ten-frame Simplicity. He next tried Dr. Tinker's two-for-a-cent hive, and settled at last on a nine-frame hive with eight frames in it, and a dummy. It is the most practical hive for our locality.

R.—Well, I sincerely hope you are right. I should be very sorry to have it finally develop that large hives, or barns, are the hive for the production of either comb or extracted honey. The Langstroth frame has come to be nearly the standard the world over ; and to change to a ten-frame Langstroth, two inches deeper, would involve an enormous expense, and endless confusion to the bee keeper and supply-dealer alike. But then, you are buckwheaters, and that spoils the whole argument. No doubt the question is entirely and thoroughly settled so far as your buckwheat country is concerned. By the by, a moment ago you spoke about the Carniolan bees. If I remember correctly, Coggshall was partial to them when I was there.

N.—The Carniolan bee is my favorite by a large majority.

F.—Why?

N.—First, because they swarm. I want no bees that do not swarm.

R.—Why, Niver! You are running squarely against orthodoxy.

N.—Well, I am a spiritualist, you know, so I have that privilege. But, let me see. Our greatest yields have always been from bees that swarmed early, if they would only swarm early enough, and before the flow was over ; that is, before the first of September. The colony that swarmed first had the most honey — that is, the colony and its progeny.

R.—Explain yourself a little more fully.

N.—How would you in your locality get the most white honey possible? Wouldn't you use Hutchinson's plan of hiving on starters, and depend on that swarm to make the boxes of honey? Can't you get more section honey that way than in any other? Is not that conceded? But at the end of the white-honey harvest, what have you got? You have a colony that is good for nothing for buckwheat, even if you had it, while our big money comes from buckwheat. We will say your queen lays eggs very rapidly in the fore part of the

season, builds up very rapidly, and then, when the honey-flow does come, the queen allows the bees to crowd her out of the brood-nest, filling it full of honey instead of brood. At the commencement of the buckwheat flow, if you were to have it ten days later, you would have a poor played-out worked-out colony with no bees coming in to take their places. With us buckwheaters we want the queen that will keep as much honey out of the brood-nest as possible, and to keep it as full of brood as possible, so that, at the beginning of the buckwheat flow — say about the 27th of July, or from the 25th to the 30th, we shall have a big colony coming on at that time, ready for buckwheat, which lasts four weeks with us, and thus we have all the queens we are after, and the Carniolans fill the bill. And I see that I have good backing here in your own apiary. That is what your apiarist, Mr. Wardell, wants — a queen that will swarm early, and lay through the honey-flow. That is orthodox, is it not?

R.—Yes, yes, yes ; I give up you are orthodox for your country ; but I scarcely understand why our man, Mr. Wardell, should seek swarms unless it is because his training and bee-keeping experience for the last fifteen or twenty years has been confined to a locality some sixty miles south of us.

N.—Perhaps I ought to say that he wants a big lot of bees at the close of your white-honey flow here ; but the point he principally laid stress on was that he wanted them to swarm early, for the swarm that comes out early is the one that gets the honey. But it simmers itself down to this at last : The bee-keeper who studies his own locality, and the various honey-flows he has, and gets them down fine, is the man who succeeds, no matter where he is.

R.—Sure.

N.—You ought to see Coggshall shinning up trees before there is a leaf on any of them, to say nothing about blossoms.

R.—Why, how could he tell whether a tree is going to blossom out before there is a leaf in sight?

N.—Oh ! perhaps there may be one leaf on top of the tree.

R.—Are you fellows in the habit of shinning up trees early in the season?

N.—Well, we keep our eye open all the while on what is going on.

R.—Possibly that explains why one of you is able to produce 39 tons of honey with 116 days of labor.

N.—There is a good point here. It well behooves us to ascertain in advance whether there will be a yield from basswood ; and if so, to put our colonies in such shape that they will be prepared for it.

R.—Is that the way Coggshall keeps track of his locality through the years?

N.—Certainly.

R. C. M., Tex.—Drones from the same queen vary somewhat in the markings, but the drones you refer to are doubtless strange drones from other hives, for drones are tolerated in almost any colony during their season.

EXTRACTED-HONEY TARE.

Robbing Bee-keepers.

BY W. A. H. GILSTRAP.

"A small leak will sink a great ship," and "many a little makes a mickle," as Poor Richard says. Excessive tare estimates is a leak that has taken many thousands of dollars from California honey-producers—not a very small leak either. We used to expect a loss of $2\frac{1}{2}$ per cent of our honey by the dealers "estimating" the cans and cases to weigh more than they did. One season we fared even worse, my loss being 900 lbs. that year.

GLEANINGS published an article, June 1, 1896, on honey tare, which I drew on local dealers, and got a tare compromise on several transactions. A Fresno Co. dealer is not in good humor yet. The following year the bee-keepers demanded actual tare, and it is an established fact in that part of the State. It has made some headway in San Francisco also.

Since I came to Stanislaus Co., where there are no local honey-dealers, and not expecting a full car, it makes consignment necessary. A San Francisco firm who wish to handle my crop reply to my tare questions as follows: "We have generally used our judgment as to the weight of the case, always allowing 3 lbs. for each tin; and when in doubt about the weight of the cases we take the cans out of a number of them and weigh them for an average. . . . All agree on 3 lbs. for the tins."

My reply is in substance as follows:

Dear Sir:—You speak of weighing some cases to get average when in doubt. If you would weigh cans and cases it would suit me very well. You say, "All agree on 3 lbs. for the tins. I take exceptions. No one who has weighed the ordinary round-cornered cans agrees on 3 lbs. for the tins." They weigh $2\frac{1}{2}$ lbs. If you find one can, such as is in general use among honey-producers, that weighs two pounds ten ounces, you may have my old hat.

Jan. 29, 1896, Hildreth Bros. & Segelken, 28 West Broadway, New York, wrote me:

We figure 5 lbs. for the two cans, which is actual; and whatever the cases weigh is added to it.

Jan. 28, 1896, S. T. Fish & Co., 189 South Water St., Chicago, wrote:

In selling extracted honey in 60 lb. cans we always allow $2\frac{1}{2}$ lbs. tare for the cans . . . we ascertain the tare of the wooden cases by weighing a few of them.

Jan. 29, 1896, Williams Bros., Cleveland, O., wrote:

We allow $2\frac{1}{2}$ lbs. on each can. . . . Almost all parties who ship us honey have the tare marked on the cases, which we invariably go by.

Others could be quoted to the same effect, some preferring the net weight to be marked on the cases.

Messrs. Rosenburg Bros. & Co., of San Francisco, received several cars of honey from Nathan Bros., of Hanford, which the producers had marked "120 lbs. net" on each case, both firms paying for it at that rate. The cans each held 60 pounds of honey.

You may be honest in considering the cans to weigh three pounds, but they don't; and to so consider them takes about 17 pounds of honey from the producer on each ton, for

which he gets nothing. Who does get it free is not the interesting point to us.

I predict that actual tare will be the rule in San Francisco in the near future, and I hope you will soon drop into the procession. My friendly interest in your business will not deter me from making inquiry of other dealers. At present I am undecided who shall handle my honey this season.

I think that, to use all available means to let dealers in honey know we insist on being treated squarely, and not "estimated" out of our honey, would be a good thing. Then work competition for all it is worth. The present contention of half a pound on each can is small compared to what we stood up to in '97 (being less than one per cent); but on the San Joaquin Valley crop, which the firm in question estimates at 150 cars this season, it would be about 20,000 lbs.

Later.—In the communication above on honey tare, in which I introduced some correspondence with a San Francisco commission house, it did not seem good policy to introduce the firm by name, but it does now. The inclosed letter shows that W. G. Lowry & Co. take quite readily to actual tare when the subject is fairly presented—more so, in fact, than any other leading house on the coast that I have heard of. Rosenburg Bros. & Co. finally accepted actual tare, but objected to handling alkali-weed honey, which is one of our leading kinds. W. G. Lowry & Co. seem to handle any quality, as I have known them to sell some very dark honey to good advantage.

Mr. Gilstrap:—Yours of June 5 is received and contents noted. Should the plan of having the net weight marked on the cases come into general use it would save many arguments and a great deal of trouble; in fact, we think it the only way to get at the exact weight of the honey, having it honestly weighed into the tins, and the exact tare taken, whatever it may be thereby saving the trouble of opening and weighing cases and estimating the weight of the cans.

San Francisco, Cal., June 9. W. G. LOWRY & CO.

If this matter is presented in GLEANINGS soon it may be of considerable benefit to California honey-producers this season. I consider GLEANINGS to be the principal California bee-paper.

My object is not to get a free advertisement for a house in which I have an interest, for I have no interest in any commercial enterprise except as any other bee-keeper has. My understanding is that you wish to know who will give us a fair business-like deal.

If all producers will weigh carefully and honestly, and mark the net weight on the case, the tare controversy will soon be a matter of history. Each can should hold 60 lbs. net, if possible, which it nearly always is. Don't try to put in more.

Grayson, Cal.

[From two references in your article above, one might infer that you have in mind the A. I. Root Co. as being naughty enough to take out a tare of three pounds, for you say, a little further on, that you have a friendly "interest in your business." Yet I can hardly think it possible you mean our firm; for I have just consulted our Mr. Boyden, who buys our extracted honey, and he says it is

our rule to figure square cans at $2\frac{1}{2}$ lbs., the same as the other dealers named. If we have ever taken 3 lbs. it must have been some years ago.

You will have the thanks of the coast beekeepers at least for this crusade against this careless or unfair way of doing business, no matter who it is or has been concerned in it; and it is evident that your first article in GLEANINGS had the effect of stirring the matter up. Keep the ball a rolling.—ED.]

THE BEST HIVE FOR EXTRACTING.

The Convenience of those "Draper Barns." Why they are Better for Extracting Purposes.

BY A. N. DRAPER.

On page 496 I find an article from my friend "Joe Sweetness" (as he is known by his intimate friends in Illinois), at which I am considerably surprised. As I stated in a former article, I discarded some four or five hundred of the eight-frame Simplicity for the large Dabdant hive, after using them side by side for several years. Do you suppose for a moment I would discard \$400 or \$500 worth of fixtures did I not meet with some serious difficulty? I had somewhere from 3500 to 4000 Simplicity frames filled with comb all built on wired foundation, and they were nice while new. I had the same idea in my head, of having all the combs the same size in the brood and surplus apartments, for the sake of convenience; and I allowed her royal majesty to occupy one, two, or three chambers with brood as she saw fit. The first year all went nicely enough, as I wanted bees and increase; but when I came to extract honey, my trials, troubles, and tribulations began.

In the first place I had to go over the entire apiary and sort out the combs that I wished to extract, and get them into the super or upper stories; for if I left any brood up there the bee-escape would be useless, as the bees would not leave the brood. After getting the honey into the house I usually do the uncapping while a helper does the extracting. I have a Stanley automatic that I have had some fourteen or fifteen years. We usually select combs as nearly the same weight as possible to place opposite each other. Some of the very heaviest combs would prove to be heavy with pollen, causing the extractor to run badly. Now, with combs that have been used for breeding purposes it is absolutely necessary to get them back on to the hives as soon as possible after they are extracted, as it is impossible to keep the moth-worms off them in any other way. More or less of them are immediately appropriated by the queen for breeding purposes, and you have your brood scattered from the top to the bottom of your hive during the summer. The honey-yielding plants fail to secrete much nectar during the hot weather, so that the whole force of the colony is turned to bringing in pollen; and as the brood is scattered through the hive, so is the empty room for pollen; and it is not long till every avail-

able cell is filled with it. Sooner or later this condition is sure to occur, if managed in this way, and your combs are absolutely worthless. Even if you cut the combs out and try to extract the wax, the pollen is a nuisance, as you can not get all the wax out. If it should be a dry fall, and the fall crop of honey should be light, another sorting is necessary to get honey enough together for the bees to winter on. Then you are liable to get combs that are over half filled with bee-bread covered with a small amount of honey, and capped over. After consuming the honey the bees will starve with fifteen or twenty pounds of worthless pollen left in their combs.

Time goes on and the years slip by. More and more pollen accumulates, and combs get thick and black. Does our friend Hambaugh or the worthy editor of GLEANINGS pretend to say that they can ever get a first grade of honey from such combs? I have tried putting these pollen-laden combs in water, and soaking them and then using the extractor, and a nice muss it is, and it does not improve the combs very much. I have put these combs in the center of the brood-nest, and there they stayed, as the bees would not clean out old dry pollen. Let me state it right here as an established fact, and as emphatically as possible, that under no circumstances do we want the queen in the supers, whether running for extracted honey or sections.

Since getting the large hives I have never extracted a large comb from the brood-nest. The frames are so large that they will not go into the extractor. It is a very rare thing for a queen to leave a large brood-nest and go up into surplus cases. If I could not keep her out any other way I would use excluders. As the honey is never extracted from any of the combs in the brood-chamber, it is a very rare thing to have an excess of pollen, and then it is when a queen gets old and worthless, or the colony is queenless. One Simplicity ten-frame body is too small a brood-chamber for extracted honey. On the other hand, two ten-frame bodies are too large for a brood-chamber, and are more expensive than one large one. In case it is desirable to move an apiary in the summer to get an extra flow of honey, we want to move extra strong colonies. The barn is much easier to move than two ten-frame Simplicities. With the Danzy bottom-board and roof, and the Hoffman frame, the Draper barn is without an equal for moving strong colonies during hot weather, for securing extra flows of honey. All it needs to complete it is an arrangement for fastening the roof and floor secure, and Mr. Hambaugh's ventilator. An empty super would make an excellent one by cutting the hand-holes clear through, and on both sides and ends, and instead of being in the center close to the lower edge, and they should be somewhat larger than the ordinary hand-holes, with wire cloth nailed over the aperture on the inside of the ventilator, as I would now call it. As soon as the colony is loaded on a wagon, and is jolted, as it would be in hauling, the bees cluster up in the roof, and this ventilator allows a current of air to pass under the cluster up in the

roof, and keeps them cool, besides furnishing them all the air they need.

Were I starting again I would use the shallow Dadant super with the Hoffman frame. If it is full of honey it is enough for any one to carry into the honey-house. It is enough space to add early in the spring. The queen will not leave the large brood-nest to go up there to lay unless there is drone comb there and none below. There is no sorting of combs ever necessary. I have never known of a case where the bees would not have honey enough below to winter on. I have not the least doubt but that the Dadants have surplus combs that are from 25 to 30 years old that are good yet, and have never had brood or pollen in them. I should like to hear from them in regard to their surplus combs, and how they take care of them when not in use.

Upper Alton, Ill., July 25.

[As the evidence begins to pile in, pro and con, on this subject, it seems light is surely breaking. From all that has been said, if I can interpret correctly from the reports, it would appear that for northern localities the eight frame capacity is about the right size when running for comb honey; and it does not matter whether that is in the shape of an eight-frame Langstroth or Danzenbaker ten-frame or two Heddon eight-frame brood-chambers, all three being of about the same capacity. For other localities, and particularly in the South, a larger hive seems to be better for the production of extracted honey. Some think a ten-frame Langstroth is quite large enough. Others, like our friend Draper and the Dadants, believe that a ten-frame Quinby, or what has recently been introduced as the Draper barn, is the thing.

It was O. O. Poppleton, one of the most careful and conservative bee-keepers there is in our whole land — one who has produced honey in Illinois and Florida both by the ton and by the carload — who says that a comb-honey hive can not also be a good extracting one, or something to that effect; that the one designed for liquid honey should have a large capacity, and that for comb smaller, so that this question of large and small hives after all simmers itself down to a matter of locality and condition of market. If there is more money in producing extracted honey, then it is folly to produce comb; and one should study well his locality, and then decide on the style of hive.

It is P. H. Elwood who began with the Hetherington-Quinby, ten of which frames would make a very large hive, and now I believe he uses only five or six such frames in the production of comb honey. These would give an equivalent capacity, if I am not mistaken, of an ordinary eight-frame Langstroth. On the other hand, the Dadants started with a Quinby, pure and simple, and they have been producing extracted honey, and have continued along with the original Quinby, nine and ten frames.

It has been only within the last month or so that all of this mass of conflicting testimony seems to have centered itself down to a point

so that we can know, to adopt a slang phrase, "just where we are at;" and it is no little pleasure to me to believe that all of this discussion has at least led to something practical.—ED.]

FEEDING BACK TO FINISH UP UNFINISHED SECTIONS.

A Seasonable Article; Artificial Heat.

BY F. GREINER.

It is, I believe, a fact conceded by all, that bees will do better work in warm weather than in cool. Quite often we have it rather cool during the early part of the clover-honey season, and again during the buckwheat-honey flow. Work sometimes comes almost to a standstill on account of a cold night. Fortunately, during our basswood-honey season it is nearly always warm, including the nights. Then we have ideal bee weather — ideal weather for honey secretion, and work in the hive. When feeding back to have section honey finished up, the work will be done a great deal better when it is sultry, and a section finished up during such a time presents a much better appearance than another one finished during cold weather. By packing the supers we may retain much heat generated by the bees, and make a gain sometimes. Danzenbaker attaches much importance to this point, which, I believe, has a good deal to do with his having his sections so well filled and finished.

The time when I feed back comes always after the buckwheat ceases to yield, or about September 1; and at this time it is more often cool than warm, particularly nights. It used to annoy me to have so many such sections look so rough and uneven. To use a comparison, they looked like a field roughly plowed, while I wanted them to look like one all harrowed down nicely with a smoothing-harrow. I studied and experimented along this line with hot soapstones, blankets, tenement hives, and kerosene-lamps. Any one *not* having a fall honey-flow will not have the trouble I have, for he can (yes, ought to) get this work done when it is still warm. He ought to have it done just as soon as his bees cease working, not alone because it *is* then still warm, but because the bees are in better shape to do the work then than after they have been idle for a time. I always select such colonies for the work as were working well at the end of the harvest. If such a colony is not already in a contracted hive I reduce the size of the brood-chamber previous to feeding, or much honey will go into the brood-nest. It is a well-known fact that bees are more apt to store in the brood-chamber late in the season than they are during the fore part. I prefer half story hives, or such colonies as are in other shallow-frame hives.

Of all the means tried, I like the kerosene best, as it is the handiest and most effective in assisting the bees in keeping up the temperature necessary for doing nice work in the

sections. For experiment I have built a little bee-house, double-walled, and packed, and roomy enough to take in six colonies. By means of a kerosene-lamp I can raise the temperature inside to 90 degrees, and keep it there any length of time. To regulate the lamp I have to open but a small glass door just above the floor. A thermometer inside tells what the temperature is, and it may be seen from the outside through the same glass door mentioned. During daytime the temperature keeps high enough, many a time, without the lamp.

Each colony may be given two or three supers of unfinished sections at one time, and a Miller feeder placed on top. This, of course, must be kept filled with diluted honey, which, being kept warm by the heating apparatus, is thus always in good condition to be taken by the bees. Sometimes I feed at the entrance also—not by an entrance feeder, but by piling up at the entrance sections not containing honey enough to justify me in returning to the hive for finishing. All sealed patches must be unsealed, or scratched with an uncapping-comb—an instrument that might well be offered for sale. When the weather is warm enough all honey will generally be removed from the sections during the night. In cold nights it does not work so well, and the bee-keeper must not fail to remove the sections from the entrance early in the morning, or trouble and robbing may be the result.

In closing I wish to say that all my section honey now gained by feeding back looks as fine as any, and represents "the field gone over with the smoothing-harrow," in my illustration.

Naples, N. Y., Aug. 4.

RAMBLE 172.

Rambler and a Wisconsin Honey-producer on a Crow-hunt. Something about Crows in General.

BY RAMBLER.

Soon after my return to the southland, and to the beautiful city of the angels, the lady who had charge of several bachelor lodgers came to my room one evening and reported that there was a gentleman downstairs who desired to see me.

"Is he good-looking?" said I.

"Why, yes," said she; "and if you will pass in a crowd, he will."

"Show him right up, Miss May; show him up!"

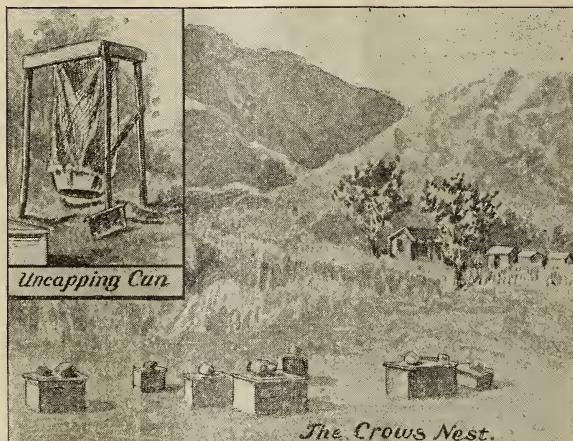
I took my position at the head of the stairs to greet the stranger, and the first impression about the man that struck me was the size of his skylight. His head was bald for a considerable area, and, as sure as you live, I thought the head belonged to a minister I

had known in San Bernardino Co., and I wondered what I had done to lead parson Brainard to get after me; but as the stranger loomed up more and more I was greatly relieved to find that it was not the parson, after all. I passed him into my room, observing that he was a tall, well-built man, having the air of a person who had traveled more or less with a kodak.

Said he, "I believe this is the Rambler."

"That is just where you are right," said I.

Then he introduced himself as Frank McNay, of Wisconsin, the owner of many apiaries, and an extensive dealer in honey. We talked about bees and honey, east, west, north, south, and diagonally. Mr. McNay is a well-posted bee-man, and is something of a rambler himself, having spent a winter in Florida, and now with his wife he had come to spend the winter in Southern California, with every evidence in their minds



that it is a better place than Florida. Mr. and Mrs. McNay were provided with Rambler bicycles, and suggested that it would be appropriate for the Rambler to have such a wheel; but as a Cleveland had won the day with me I was content to be perfectly satisfied with it.

I found time to take several wheelrides with these friends, and, after visiting my apiary and several others, it occurred to me that Mr. McNay would like a longer trip than we had been taking, and I invited him to take a wheelride to the Little Tehunga Canyon, 25 miles distant, for a two-days' crow-hunt.

The plan struck Mr. McNay very favorably; but Mrs. McNay declined to go. Although she did not so express herself, I surmised that she finished her hunting when she captured McNay. But, pshaw! what am I saying? it was the other way—McNay captured her—that's it. Well, however the capturing may be, she had no ambition for a crow-hunt, and at the proper time Mr. McNay and I started out on our wheels, amply armed and provisioned for the purpose.

A fair day, fair roads, and pleasant companionship, were the happy factors in the

case ; and, though I was not so expert with the wheel as my companion, we were making very good time until we ran into a sandy road, and it just wilted us off our wheels. Mr. McNay immediately looked at his cyclometer, and then, rising to his full height (he is a six-footer if not more), he boasted how he had ridden 17 miles without dismounting, and how he had done better than that in Wisconsin. Now, I could have done as well as he ; but having his welfare in mind, and feeling somewhat responsible for his safe return to his wife, I had alighted several times to stone those unpleasant dogs that nip at our wheels. Then we passed through a little town that was not properly labeled, and I halted to inquire the reason why. They had removed the label down to the railroad station ; and as the Southern Pacific owns nearly the whole State, there was no use of having a name. After my companion had quieted down on his 17-mile ride we proceeded, riding and walking as the road permitted.

"It is such a pleasant day," said Mr. McNay, "I should think the crows would make their appearance. We should have seen dozens of them in Wisconsin by this time."

"Well," said I, "just be patient ; I am running this crow-hunt, and this is California and not Wisconsin.

For about twenty miles our journey was up the east side of the San Fernando Valley. We now faced toward the mountains, and entered the Little Tehunga Canyon. Mr. McNay was still on the alert for crows, and was a little ahead of me, and at a sharp turn in the road he dropped off his wheel and shouted, "Here's the crows, Mr. Rambler ; get out your kodak !" When I espied his crows I had to smile. It was an old darky woman with several curly-headed picininnies.

"Why, Mr. McNay, those are not California crows."

"Well, that's the kind we have in Wisconsin, any way," said Mr. McNay, "and there is quite a sprinkling of them in Florida too."

We kept proceeding. It was getting toward one o'clock. Our stomachs had ground out what little provender we had inserted in the morning, and began to be rancorous for more. As it was now up grade all the way, we were inclined to rest often, and inclined to break into our lunch-boxes; but while we were sitting on a rock considering these inclinations, a Spaniard on a load of wood appeared. "Now," said I, "just hear me talk Spanish."

"Hello, señor ! Ze zollyfired ger busty looso ny bagamagano."

The Spaniard shouted back, "Bally no garry zolly fried grubstake barranca."

"What in time did you and he say?" asked Mr. McNay.

"Oh ! I merely asked him if there were any crows' nests near, and he said there was one just above the barranca."

"And what is a barranca? never heard of such a thing in Wisconsin, any way," said Mr. McNay.

"Deuced if I know myself," said I ; "I think it must be a gate or a well."

We pushed our wheels ahead of us, and dragged our feet behind us, and came to one of those rugged places in a canyon where the rocky walls rise on every side, and the way seems blocked for further progress ; but a sudden turn lets us through, and we come into quite an opening. I swung my hat, and shouted, "Hello, McNay ! look ahead of you ! there is the crow's nest, and behold the Crow."

"Crow ? ha ! ha ! why, Rambler, that is a



A WISCONSIN CROWS' NEST.

white crow. I never in my life saw that kind in Wisconsin."

"Well, that is the kind we have here. It's our way, Mr. McNay, to have every thing best in California."

We had at last found the Crow's nest, and the occupant was Jas. M. Crow, a California bee-keeper of good repute.

We refreshed ourselves immediately from our lunch-boxes and from the ample larder of the Crow's nest, which was placed at our disposal.

Mr. Crow divides his attention between his apiary, his gold-mine, and his city home. In the latter nest Mrs. Crow presides. Mr. Crow had a fine apiary of 125 colonies in San Diego Co., but he sold and moved to Los Angeles. He came into possession of the present apiary

through a trade, and it is not according to his liking in hives and fixtures. It was formerly quite a large apiary; but, being in the hands of inexperienced persons, it has degenerated, and the dry seasons have diminished the numbers. Mr. Crow proposes to get the remnant into better hives, and build the apiary into a paying institution, provided, of course, there is a good rainfall next season.

The uncapping-can handed down by a former owner was so novel that it took the eye of Mr. McNay, and I present a photo of it. It was merely a rude frame with a gunny sack attached to the upper portion. A slit in the bottom of the sack allowed the attachment of a good-sized dish-pan perforated with many holes. Mr. McNay said they had no such things in Wisconsin. One of the honey-houses was a substantial affair, and built of stone. A stone honey-house is a very desirable building in this country. They are cool in summer, warm in winter, fire-proof, and not handy for burglars to break through and steal.

After the honey business had been discussed to a considerable extent we were shown the adjacent gold-mines. Mr. Crow's mine was in the course of development; but a neighboring miner had cut a tunnel several hundred feet into the mountain, and had a large amount of low-grade ore in sight. Mr. McNay was informed that the mine could be purchased for about \$40,000. Now, if the mine had been worth two or three hundred thousand dollars Mr. McNay would have used a portion of the fortune he has accumulated from the honey business in Wisconsin, and purchased the mine; but he did not want any cheap \$40,000 mine on his hands.

After our arduous day's work, tired Nature asserted her rights, and we prepared to go to roost, and Mr. Crow insisted upon giving up his nest to us. Mr. Crow is not a tall man, and his nest was made according to his needs. I could manage the nest very well; but tall Mr. McNay had to make rafters of his legs or poke his knees out in front or into my ribs, or project his feet out at the foot of the nest. He managed very well until he dropped asleep, then his feet would start right off toward Wisconsin, and hang out like twin specters in the dim moonlight. Having in mind the old adage about keeping the head cool and the feet warm, I was extremely anxious for his welfare, and anxious to have him return in safety to Los Angeles and Mrs. McNay.

To allow a man to expose his bare feet all night, even in California, is no trifling matter, and the case was more aggravating when we consider that Mr. McNay was a tenderfoot. My only remedy was to give my nest-fellow a shake, and shout, "McNay, pull in your feet!" He would promptly obey every time, and keep right along snoring.

Mr. Crow had curled himself up in a cot on the other side of the cabin, and he soon began a snoring duet with Mr. McNay. Between the nasal music and the care of my companion's feet I slept hardly a wink during the night. In the morning Mr. Crow remarked

about my haggard appearance; but I knew that, if I told them the cause of my sleeplessness, they would both contradict me right from the shoulder, and I suffered in silence.

The next afternoon we returned to the city, making good time, and having a trip the pleasures of which we will long remember. Mr. Crow's door is open to all good bee-keepers who wander this way.



PROPER TEMPERATURE FOR BROOD-REARING.

Question.—Can it be possible that 100° of heat is required for brood-rearing? If I remember rightly I read a few days ago that 100° is about the temperature the bees maintain inside the hive when rearing brood; and if the heat in the sun is greater than that, the bees, by fanning at the entrance, cause a current of air to pass through the hive so as not to allow the temperature of the hive to rise higher than this. It seems to me 100 is altogether too high, and that 80 to 85 is much nearer right.

Answer.—I think I saw something similar to what the questioner alludes to, in one of the bee-papers; and this, together with what he says, leads me to believe that but few have a correct idea regarding the degree of warmth in which the bees keep the eggs, larvae, pupae, etc., during the time they are rearing their young. While nature has so ordained that a good colony of bees can form a living hive, as it were, in which to rear their brood, yet brood-rearing is very largely dependent on the hive; and before I take into consideration the real subject touched upon by the questioner I wish to say a few words regarding that part which the hive plays in this matter of brood-rearing.

In spring weather the capacity of a hive to retain warmth, the same coming in close contact with the bees, has much to do with prolific brood-rearing and the securing of our bees in time for the harvest. The more heat we can retain in the hive, the more honey we can save; for all are aware that the "fuel" which the bees "burn," so as to raise the temperature of the cluster to where they desire it, is honey. Again, the more fuel (honey) the bees burn, the sooner their life wears away; for it takes an effort, even on the part of the bee, to keep the furnace (the bee) heated, and filled with fuel as fast as it is consumed. Hence we see the important bearing that a good warm hive has in advancing our interests in the spring. Why do I say *in the spring?* Because at that season of the year the temperature outside the hive is very much lower than that which is required by the bees to rear brood, especially during the nights. If, as I saw in print not long ago, bees could rear brood with a temperature of only 60°, then there would not be so much need of a good warm hive, for we have many spring days.

wherein the mercury goes as high as and even higher than that. If those figures were correct, then our bees could rear brood in April and May, here in the North, to as good advantage as they do now in July and August. Then if the temperature of brood-rearing were only 80 to 85°, as our questioner seems to think, should the temperature run higher than this would it not be unbearable by the brood? And if this were true, what would the bees do when the mercury stood about the "nineties" for days in succession, as we frequently have it, even in this locality. Would it be possible for the bees, by fanning the air, to give a less degree of heat than that very air contained?

Some years ago, having a desire to know for a certainty of these things for myself, I began to experiment as follows: I procured a self-registering thermometer, and, placing it near the fire till it showed 125 to 130° of heat, I set the register, wrapped it in some heated cloths, and immediately placed it in the center of the brood-nest of a medium-sized colony. This was on a very cool day, some time in the month of May—about the middle, as nearly as I can remember. That night water was frozen so as to form ice nearly as thick as window-glass, the time being selected on purpose. The next day, about two o'clock, it had warmed up enough so that the bees were flying freely, when I took out the thermometer and found that the coldest point reached in the brood-nest during such a cold night was 92°. Since then I have tried the same experiment on both strong and weak colonies, although at no time since did it freeze so hard as at the first trial; yet in no colony that was rearing brood successfully did I ever obtain a less degree than the one mentioned, while some of the stronger colonies gave a temperature of 95° on very cool nights—nights in which there was some frost.

Being satisfied that 92° is the lowest point consistent with successful brood-rearing, I next went about finding what is the highest point the bees allow in their hive when the mercury is playing in the "nineties" in the shade. Accordingly, one very warm August morning I placed the thermometer in the center of a very strong colony. This day gave promise of being a very warm one, it being 78° in the shade before the sun was two hours high. At two o'clock that afternoon it was too warm to work out in the sun without danger to health, as from 90 to 95° was the range of temperature between 12 and 3 P.M., while the front of nearly every hive in the yard was covered with bees, with hundreds plying their wings at the entrance to keep the temperature as low as possible inside the hive. At about sunset the thermometer was lifted from the hive, when I found that the highest point reached was 98° during that extremely warm afternoon. Since then I have tried similar experiments, but have never been able to secure quite as high a temperature, although on one other occasion it came within less than half a degree of 98. In this way I found that, to rear brood successfully, the temperature of the hive must reach a point somewhere between 92 and 98°; and any arrangement of hives

that would keep it as near those points as possible, with the least expenditure of effort by the bees, would be the hive best suited to the wants of the apiarist. To this end I am very favorable to a chaff-packed hive, the same being painted a dark color, and covered with a metal roof, the same being painted a dark color also. The hive is allowed to stand in the sun thus till warm weather arrives and the bees become numerous, in order that the chaff and hive may absorb the heat from the rays of the sun during the day, and slowly give it off at night, thus helping the bees immensely in keeping up the desired temperature during the night. When it becomes steady warm weather, with the bees numerous, with prospect of hot weather, then a shade-board is provided, the same being raised from an inch at the front side of the hive to four inches at the back, so that the air can circulate all over and about the shaded hive during the day, while from the chaff, taking in much coolness during the night, which it gives off during the day, a uniform temperature is maintained, so that the bees are seldom driven from the sections, either by the cold of night or the heat of the day.

These points are well worth looking after if we would meet with the best success.



W. H. W., Mo.—If you make sugar syrup as we describe in our catalog, one-half sugar and one-half water by measure, and feed the bees before the frosty weather comes in, you will not need to trouble about the sugar granulating in the combs; but if, on the other hand, you make the syrup one-third water and two-thirds sugar, and feed it during the cold weather, you may find some granulation.

E. L. B., Ohio.—The bees will probably take care of the dead brood in the combs that died as a result of overheating while moving the bees. If they do not, better take the combs out and melt them up. Such dead brood is not likely to turn into foul brood, even though it appears to be a favorable medium for the growth of the germs of that disease if they are already present in the hive.

W. C. G., N. M.—There is a good deal of powdered and pulverized sugar on the market that contains quite a large percentage of common starch. This starch is not an adulterant, for the simple reason that some people prefer to have the starch because it makes a better frosting for cakes, and this sugar, you know, is used largely for this purpose. You probably have been using a sugar that has starch in it. By sending to a wholesale grocer or to your own grocer you can obtain a pulverized sugar that is sugar and nothing else. This will make you a bee-candy that will give you good results every time.



BUCKWHEAT, the one almost never-failing source of honey in certain sections of New York, is not as promising as it might be. In fact, one or two have reported entire failures; and one bee-keeper in the heart of the buckwheat country, Mr. N. E. Boomhower, reports it as "the poorest honey season ever seen in this country."

THE HONEY CROP OVER THE COUNTRY, AGAIN.

SINCE our last, reports give a little better showing. Indeed, it begins to appear as if there were some bee-keepers, and even some States, where a fair crop of honey has been secured. Missouri, generally speaking, has had a good yield. Wisconsin will have more honey than was at first expected. Northern California has produced quite a showing of honey. Certain portions of Colorado show a good yield; and many places in the South have had fairly good flows of honey. But taking every thing into consideration, Northern honey, both comb and extracted, will be a rather scarce article.

TABLES TURNED.

HONEY-BUYERS are out on the road, buying up honey, trying to find it, and they are getting it. One whole section of Wisconsin has had all its honey cleaned up. A New York concern got in there before we had a chance to do any thing; and now some of them are rushing toward Missouri. It would seem that this year the buyers have to hunt up the honey. The tables are turned at last. The old rule has been, consumers seeking the buyer. Nevertheless, it would be wise for those who have good honey to avail themselves of a free advertisement in GLEANINGS, one insertion, five lines. The more you can get after you the better will be your chances for good prices.

"BEAR" UP THE MARKET.

IN the Honey Column in this issue we note that some of the markets are practically bare of new comb honey, while others are receiving consignments. In the first case mentioned, the prices offered are evidently too low, and the honey is, therefore, going to those points where higher prices are offered. Northern honey, of fine quality, both comb and extracted, is a rather scarce article this year. This, taken in consideration with the fact that prices are advancing this year on every thing else, ought to raise the price of honey above what has been offered for it of late. It is true, we are honey-buyers; but that makes no difference. If prices advance, the ratio will be the same, for we can sell for more money. But we should like to see comb honey, for the sake of producers, come up to the old-time figures, if possible, this year. If dishonest commission houses and slipshod, behind-the-times bee-keepers, could be entire-

ly figured out of the problem, there is no doubt that the reliable firms could "bear" up the market, and perhaps they can do it, even as it is.

SELLING HONEY FOR CASH OR ON COMMISSION; HOW TO AVOID BEING "TAKEN IN" BY HONEY-SHARKS.

NEARLY every year, or during the latter part of it at least, there are usually quite a number of bee-keepers who complain that they have been unfairly treated by commission houses or honey-buyers. In some cases, at least, the trouble is wholly with the bee-keeper. His honey is improperly put up, breaks down in transit, and in the end the commission man is blamed. There are a few expert bee-keepers who know exactly how to put up their honey, and how to put it on the market without running risks. But there are many more, in spite of all that has been said, who make serious mistakes, greatly to their financial detriment.

In the first place, let me say that there is a vast difference in the *legal responsibility* of an actual *buyer* and a *commission house*. If you ship your honey to an irresponsible purchaser, and he fails to make you returns, you are helpless. If he is worth any thing, on the other hand, you can sue him for the full amount of your claim. A commission house, on the other hand, if it takes your honey, takes it in trust. You will be obliged to pay freight, car age, and assume all risk in shipment. If the honey is broken down in transit, the commission man (if one of the sharpers or skinflint class) may make out its condition a great deal worse than it is, sell it at a certain figure, and represent to you that it sold at a good deal lower figure. He will not only steal the difference between his actual selling price and the price represented to you, but will charge you up, which he has a right to do, with freight, drayage, and his 10-percent commission. Although you may be pretty well satisfied that he has actually robbed you, unless you can prove it you have no recourse in law.

The nicest way to dispose of honey is to sell it for cash to a responsible, honorable firm. In 30 days' time you will get returns for the full amount of your bill. But if the buyer is irresponsible, and especially if he is dishonest, look out. I would rather deal with an irresponsible commission house than with an irresponsible buyer. The former will be compelled to render you *some* sort of returns, while the latter can simply say in effect, "What are you going to do about it?" If you sue him you will be running up attorney fees, without any show of returns; but the commission man *must* render you some sort of statement, and remit according to that statement, or go to jail for having taken your property in trust. He has no right to confiscate it; but, as I stated, he may make a false report, and render you only a small percentage of the actual amount he received for the honey.

In the first place, then, investigate the responsibility of either a commission house or of

a buyer, as the case may be. If your banker can not give you the desired information, write to us—better do so any way, because we are acquainted with many of the really reliable firms who handle any considerable amount of honey, and will charge you nothing for the information.

But suppose you get a good offer, and do not really know the firm; your banker does not, neither do we. Or suppose you haven't time to write, and that, to all appearances, the firm is straight, and you desire to close the deal. Ship the honey to your own name to the point of destination, and attach a draft* to the bill of lading, sending both to some bank at the place where the honey is shipped. This bank will, for a very small fee, collect the money, turn over the bill of lading and the honey to the actual purchaser.

But suppose there is no bank in your vicinity, and yet you wish to make yourself safe. Consign your honey as before to your own name at the point of destination, and then request your agent to express† the bill of lading to the agent at the other end of the route. The latter, as agent for the express company, will collect the money, and deliver the honey and the bill of lading. Money will be forwarded to your agent, when, by paying a small fee, you can take the whole amount of the cash.

Again: Look out for any firm that makes quotations away above the general market figures. These high prices are put out as baits. You ship to the house, and as soon as the honey is in its hands it will report that the "market has suddenly declined," or that your "honey is of poor quality," or that it was "broken in transit," and after a little the house will advise you that the honey was sold for, say, a half what you expected to get for it—may be a good deal less. The concern will be obliged to remit to you according to that report, after deducting freight, drayage, and commission. If you expect to get 15 cents for your honey you will probably get in cash somewhere about 4 or 5. This thing has been done over and over again—so much so that I feel it is necessary to warn our readers thoroughly.

Still again, it is a bad plan to ship to a commission house, even though it is quoted at thousands of dollars, and its honor is above the average, if such house does not make a specialty of handling honey. It can not begin to do as well for you as some firm that makes honey a business.

HOME-MADE SHIPPING-CASES.

I have several times spoken of the folly of trying to put otherwise nice comb honey into poorly constructed or home-made shipping-cases, and I hesitate about saying very much about it now, because it looks as if we had an ax to grind. But I know just how our honey-buyers and commission men regard these poor miserable clap-trap affairs made at the "ordinary planing-mills around home." A member of a honey firm in Chicago pointed

to me a nice lot of honey put up in home-made cases. Said he, "If it had been put up in no-drip shipping-cases of the modern style, the honey would have brought two cents more per pound." The cases he pointed to me held 24 sections each. This would have made a difference of nearly 50 cents per case, and yet I venture to say the penny-wise-and-pound-foolish bee-keeper thought that, because he was saving one or two cents on the factory-made cases, he was just so much ahead.

Various commission houses in Albany and New York city, Philadelphia, and Columbus, emphasized the importance of neat attractive cases, and in this day of fancy goods and close competition, it would seem as if it should be unnecessary to speak of this.

I am well aware that I have gone over or rehashed here a good deal that I have said in the past; but it seems to me very important to "rehash" some things; and it is evident that a good many honey-producers do not read bee-journals, even if they do take them.

We are planning to get this commission article out in the form of a leaflet, and we expect to put one in every package of shipping-cases. We will see if we can not get this very necessary information before bee-keepers in such a way that they will be able to protect themselves against a very irresponsible and dishonest class of operators in the cities. Any other manufacturer who desires to copy the matter in this editorial for his own leaflet is at liberty to do so; for the more this matter is brought to the attention of the bee-keepers of the land, the more money it will mean to them in the long run.

A PLEA FOR THE COMMISSION MAN.

In the foregoing I may have given the impression that nearly all commission houses are "up to the tricks of the trade;" but that, I am pleased to say, is not the fact: and those that use our Honey Column we believe to be honest. And yet I realize the fact that there may be one or two among the number whom some of our friends feel are not all they might be. Perhaps so; but in several cases we have investigated, we found the trouble was either due to a lack of experience or because the bee-keeper himself was desirous of getting the "lion's share." The dishonesty is not always on the side of the commission man. The difficulties, when they do come up, however, are mainly those that are the result of inexperience on the part of the bee-keeper, and ignorance of the ordinary methods of doing business—yes, ignorance of the simple principles enunciated above.

HIGH PRICES ON CLOVER EXTRACTED HONEY.

I KNOW one case where a fine quality of clover extracted honey sold by the ton for 11 cents at wholesale; and of another instance where a fancy extracted went for 9 cents. This would seem to indicate that clover honey of A No. 1 quality is rather scarce this year, for the same sold two years ago for 5 and 6 cents. It is hardly probable that 11 cents can be gotten again for first quality of clover, as prices will probably decline a little, owing to

* Your banker can do this for you.

† If you mail it, that relieves the express company of all liability.

the fall fruits that will soon be loaded on the market.

INKY BLACK HONEY.

I HAVE before me a sample, quite a large one, of black honey—so black, indeed, that even the bright light from a clear sky will not penetrate its inky darkness. At first I thought it might be some product from aphides; but it does not have the characteristic flavor by which all such are recognized. Its flavor is not really bad, and our correspondent is of the opinion that it comes from post oak. If any one else has produced samples of genuine honey, not "bug juice," that is as black as ink, I wish he would send samples of it.

ROBBING BEE-KEEPERS.

We regret to be obliged to warn our friends against sending any honey to E. R. Hayes, of Topeka, Kan., or trusting him in any way. D. S. Jenkins, of Las Animas, Col., sent him a lot of honey last October. Hayes said, when Mr. J. offered the honey, "I will send my draft on arrival of goods." Since then friend Jenkins can not get a word from him, and we have written to Mr. Hayes twice, the last time telling him we would publish him unless he made some sort of answer; and although we have given him several weeks' time to make a reply, we can not get a word from him in any way, shape, or manner. Will the other journals please pass his name along unless he can be made to talk or give some reason why he does *not* talk.

A SOURED BEE-KEEPER.

SOME bee-keepers are, unfortunately, sour (when they ought to be sweet)—soured on particular people who, for some slight cause, have gained the ill will of that person. This thought came to me after reading a communication in one of our bee-journals. The writer of said article—a chronic pessimist—seems to be leaving no stone unturned to say some mean thing of some one person whom he does not love, evidently. I feel sorry for such folks not the ones picked at, but those who do the picking. What miserable lives they must lead! The most unhappy person in the world is the one who is continually finding fault with others; and the happiest person in the world is the one who loves all the world—even those who have faults.

"A GOOD CATCH," AGAIN.

ALREADY several photographs showing a young woman in the act of catching a swarm of bees have been received. One defect with some of them is what an amateur photographer would call a "lack of contrast." For instance, in several pictures the swarm of bees hanging in the air has a background of foliage, which in the pictures is of the same color, almost entirely obscuring the outline of the cluster of bees. Such pictures, if reproduced in half-tone, would show the swarm quite indistinctly. I have at least one photo that I can use. In the mean time our artist, R. V. Murray, has

entered into competition with brush and pen. He has in his mind's eye a beautiful young woman holding forth a swarm of bees. Just over the fence, and leaning on it, is a young farmer of marriageable age admiring one part of the scene before him—which part I need not say. If Mr. Murray catches the inspiration, there will be a rare combination of ease and grace, with a touch of romance.

The successful contestants will have their productions shown in half-tone, both in GLEANINGS and in the A B C of Bee Culture.

FANCY HONEY AT THE PHILADELPHIA CONVENTION.

MR. F. DANZENBAKER, of Washington, D. C., in a letter recently received, suggests the wisdom on the part of the members of the convention of bringing in samples of honey for exhibition, the same to be displayed at the place of meeting, and examined by a committee appointed by the convention, and that said committee be empowered to award prizes, or to report "honorable mentions" for the best honey brought and shown. As a further incentive, Mr. Danzenbaker makes the following offer:

I shall be in Philadelphia Sept. 1, and during the bee-keepers' convention, to receive and care for honey free of charge that may come for exhibition. I will pay 50 cents each for the best 20 4x5 plain sections made in Danzy hives; 25 cents each for the second-best 20; 20 cents each for the third-best 20; 15 cents each for all other 4x5 plain sections made in Danzy hives. The honey may be brought to the convention, or sent by express prepaid to me at Philadelphia, to arrive on or before September 5.

Washington, D. C.

F. DANZENBAKER.

WHY CLOVER DID NOT YIELD HONEY THIS SEASON.

ONE of our subscribers, Mr. R. J. Cary, of Reading Center, Ct., suggests, in answer to my question why clover failed to yield this year, that it was owing to the very severe winter. He says he has noticed that, after a very cold winter, clover does not yield well the following summer. Well, now, here is a chance for some of our subscribers who have, perhaps, been keeping record, to give us a few data along these lines. Perhaps many can remember whether or not a failure of the clovers to yield honey was preceded by a cold winter.

But, you say, granted this is true, what can we do to help ourselves? Nothing; except that, if we knew, say, in March, after a very long cold winter, that clover, our only source of white honey, would probably not yield, we would not be laying in a big stock of supplies when it would be unnecessary. A very cold winter is apt to be followed by a warm spring. The warm weather and the balmy air lead the bee-keeper to feel that there is going to be a big yield of honey; and the consequence is, he sends a large order to his dealer. We know that many did so last year, and a good many this year; and both winters, in many localities, were very cold, and yet clover did not yield honey to any extent, either in 1898 or '99. But all this may be a myth. There may be nothing in it. I do not say there is. But why not compare notes?



And ye shall dwell in the land that I gave to your fathers; and ye shall be my people, and I will be your God.

And the desolate land shall be tilled, whereas it lay desolate in the sight of all that passed by.

Then the heathen that are left round about you shall know that I the Lord build the ruined places, and plant that that was desolate: I the Lord have spoken it, and I will do it.—EZE 36:28, 34, 36.

Many of the friends will recognize the above as extracts from a recent Sunday-school lesson. It seems to me the United States of America is getting a good deal into the situation that the Israelites were when the good prophet Ezekiel gave them his divine messages and exhortations. They had been disobedient, and had trampled God's laws under foot, and they were beset with a multitude of troubles. Just now the people of the United States are, as it seems to me, beginning to reap the consequences of trampling God's holy laws under foot. When a people begins to transgress the laws of God, it is a very short step to transgressing in a like manner the laws of the land.

For quite a few years past, the fashion of pushing certain kinds of business on Sunday as well as on week days, or, if you choose, pushing it *more* on Sunday than on any other day, has been gradually growing and increasing. At the World's Fair at Chicago the managers gave a fair and square promise to close up the grounds on Sunday if a certain amount of help was given them from Christian people. They received the money and paid it out, and deliberately transgressed God's law, the laws of the United States, and, to add insult to injury, they deliberately broke a fair and square promise in black and white. In doing this they established a great precedent—a precedent that stood out strong and clear before all the world. Even foreign nations were witnesses of the fact that great men in high places where millions of dollars were involved, did not hesitate to prevaricate and *steal*, and then evade and avoid, and make it one of the *fine arts* to get around their promises by studying up ways and means *not* to obey the law.

This thing has been going on in every part of our land. The electric railway through that wonderful gorge between Niagara Falls and Lake Ontario was first started on Sunday. They had a terrible accident, but nobody seems to have caught on to the idea that there is any retribution in it for breaking the Sabbath. Some people seem to think that Sunday is a *better* day to start big enterprises than any other. They regard it as a kind of Fourth of July. The forecaster of the Weather Bureau in Cleveland, O., has of late been telling the wheelriders when they are likely to have a pleasant Sunday for their sports. Oh how I have longed to have this forecaster make some little suggestion in regard to remembering the Sabbath, and keeping it holy! Somebody may say that he meant to suggest

it would be a good day to ride to church. But if you are going to ride to church on your wheel, the church-going should be the principal point, and the wheelride a secondary consideration. It has really made me groan in spirit to see men who occupy high and important places—scientific men, and men who have great skill in mechanics—and prominent men whom one would think were really considering not only the health, but the best interests of our great people—utterly ignore churches, ministers, Sunday - schools, and Endeavor Societies, etc. Why, one would think either that they never heard of such a thing, or else that they consider it old-fashioned, and were taking it for granted that these things were gone by.

The examples that influential men have set in the way of transgressing God's laws have been copied, from the least to the greatest; and, as a natural consequence, the laws of the land are being ignored. Just now the great city of Cleveland is standing with open-mouthed astonishment and wonder, and speculating why it is that neither policemen nor military authorities can enforce obedience as they did a few years ago. Several street-cars have been blown up with bombs, and the passengers maimed and killed: and although more than a thousand dollars' reward has been offered for the arrest of the perpetrators, the authorities do not get a clew. In fact, the dynamite work seems to keep right on in defiance of law. The car-tracks are obstructed, even though the authorities have notified the perpetrators that it is a *penitentiary offense* to endanger life by meddling with the railway tracks. Many of the rioters have been caught in the act, and arrested; but the judge fines them from three to five dollars, and in some cases ten dollars. I have thought that these moderate fines (that their aiders and abettors can club together and easily pay) only make these people worse. They have a fair right to presume that even the judge is on their side. Many of the policemen seem to be conniving with the rioters, and great and good men are wondering what the matter is. How does it come that these outlaws have so many sympathizers? Let me tell you what happened yesterday (Sunday) right close to where I write.

An excursion with something like a dozen passenger cars filled with men, women, and children was on the way to Chippewa Lake, five miles south of here. Somebody said there was a wreck down the road, so this train of excursionists was obliged to stop right in front of our factory. As soon as they were informed that they were obliged to stop a spell, a lot of men and boys tumbled off the cars and began making inquiries for beer. Well, there is a place close to the depot where beer *has* been sold for some time on the sly. These fellows got an inkling of the truth, and in no time they rushed for the place. They swarmed about it like a lot of bees. They tried every door, and tried to look in every window. The proprietor, probably feeling a little sore from recent tussles with the Anti-saloon League, I think, refused them admittance.

When they found they could not get any beer the whole lot of them swarmed over on to our premises and into our lumber-yard ; got hold of one of our trucks used to move lumber on, and piled on to it right at the top of a steep down grade ; and without looking for a brake, or providing themselves with any thing to stop the car, in their drunken frolic the car-load of human beings went down the incline. It struck a sort of barricade fastened to the ends of the rails at the bottom of the incline, and then the car with its load of human freight careened over and went down into a deep cut where our east and west railway passes under the north and south road. One of their number was so badly injured he had to be carried up to the restaurant where they had been trying to get in, and I have been told he will probably die.

Now, even this did not sober them. Another gang got hold of another car and started to repeat the same reckless and dangerous performance. One of our men, however, appeared about this time and ordered them off the premises. They turned upon him and refused to move. After he had provided himself with a revolver, however, he managed to get them to let the cars alone.

Now, then, friends, what sort of civilization have we when a lot of drunken rowdies like these deliberately go on another man's premises, appropriate his tools and machinery, and refuse to leave when ordered to do so ? Why, it is just the sort of work you may expect and always should expect when you get up an excursion to go off to a pleasure-resort on God's holy day.

I have many times spoken of Silver Lake, Summit Co., Ohio, where our good friend Lodge has entertained people summer after summer for the last eighteen years ; and in all that time no visitor has ever been permitted to go on the grounds on Sunday. In fact, friend Lodge was offered \$1000 by a single railroad company if he would open his grounds on Sunday for just one summer. By keeping out the Sunday traffic he finds it an easy matter to keep out all traffic in intoxicating drinks. A pleasure-ground near by is a temperance place, usually, during week days ; but on Sundays the class of people who always choose Sunday for such an outing will bring in liquors in spite of any thing that can be done. And why shouldn't they ? The man who has no respect for the Sabbath can hardly be expected to bother himself with any conscientious scruples in the matter of temperance.

There is no help, no hope, no prospect of any thing better unless we turn to the teaching of our text. We must be God's people, and he must be our God. When our fathers landed in America they kept the Sabbath sacred and holy, and at times, too, when there was need of working every day in the week if there ever was such a time. Not only is land in some places becoming waste because of Sabbath-breaking and intemperance, but factories are standing idle while the people are out on a strike. The Lord, and he only, can build these ruined places, and restore activity where every thing is desolate. I believe the leading

papers of our cities are in favor of law and order, and they have given us some excellent exhortations along that line. They counsel Sabbath closing of saloons and at midnight ; and, by the way, if I am correct, the first start in the city of Cleveland toward trampling down law was when saloon-keepers with their whisky-league lawyers proceeded to break our temperance laws as fast as they could be enacted. The police, too, seemed to get an idea — at least some of them did — that their business was to *screen* the saloon-keepers rather than to punish them ; and numerous cases were reported where policemen would say to a saloon-keeper, "Why, here ! there is an ordinance to the effect that you are to *close up* at midnight. What are you doing wide open ? "

Then the saloon-keeper would say he had not heard of it ; and then both the saloon-keeper and the policeman would laugh, thinking it was a good joke on the temperance people. This thing was allowed to pass ; and a month or two later, when it came to forbidding the strikers and their sympathizers from molesting the officers of the street cars and their passengers, the great city was astonished because there did not seem to be any method of enforcing law or of preserving order. If the bombs I have mentioned *had* resulted in destroying human life, I do not know but the police would have found themselves equally helpless.

It is not the large cities alone that are guilty. In fact, many of the country papers seem to be even *worse* than the city papers. A few weeks ago I visited a relative in an adjoining city. We were talking about temperance work in this town, and he was congratulating us on having a temperance county paper. The speaker and his pastor had been trying to enforce law against the saloon-keepers, and had succeeded to some extent. He made a remark something like this : "Mr. Root, you have no idea how much harder it is to secure arrest and conviction while the papers in the town are in league with the saloon." He then reached out his hand and took up the latest copy of one of the principal papers of the town. Said he, "Listen while I give you a sample of the helps (?) we get, in the way of an editorial." Then he read from the paper as follows, as nearly as I can remember :

"The Puritans landed on Plymouth Rock years ago. They have recently landed in the town of Fostoria with both feet. You may have heard of it." Now, the above is brief, and it is simply a hint ; yet the more you look it over the more you will feel sure that it emanated from the evil one himself. A crusade had been going on for law and order. A little encouragement from the town paper would have helped the thing in the way of creating public influence. Perhaps few people know how the town paper can shape public opinion, even by way of suggestion. First the editor makes a brief slur on the Puritans, who laid the foundation of our great republic. In the same breath he suggests it was a long while ago. These Puritans had peculiar old-

fashioned notions, he intimates. Then he suggests that there are a few in Fostoria, who actually think God's laws and the ordinances of the city ought to be respected and enforced. No one, unless it is some one who has been through similar experiences, knows how it chills and discourages those who undertake to start a movement for temperance and righteousness. One of our leading attorneys here in Medina said a few days ago that it actually pained and alarmed him when he realized how much it is getting to be the fashion for witnesses to be stupid and dull whenever they are called upon to testify to any thing in regard to temperance work. Why, some of them evidently seem to think it is nothing out of the way to commit perjury—to *deliberately* perjure themselves—providing the case in question is for temperance.

Since the above was dictated one of the Cleveland dailies has reached us, and it gives notice of another fearful disaster where 36 persons are known to have been killed. In another part of the paper there is an account of another disaster where 18 were killed. The first happened six miles south of Bridgeport, Ct., and the second one at Bar Harbor, Me. These disasters both occurred among Sunday excursionists. The daily does not anywhere say that it happened on Sunday, but the date is August 6 in both cases. Now, our great dailies, at least so it seems to me, studiously avoided all reference to the fact that these two disasters occurred on Sunday. If they had so mentioned it, it would have been almost incumbent on them to suggest at least a mild note of warning in regard to these Sunday excursions that are getting to be so fashionable.* Now look here, dear readers. I am not superstitious. I am simply calling your attention to the fact I have already referred to; namely, that the men and women who deliberately and voluntarily start out on an excursion on Sunday are, as a rule, the world over, not careful, conscientious people. They are not the sort of people who ought to be trusted with any undertaking where human life is in any sort of danger. The very fact that they start off on Sunday in an average Sunday crowd indicates a sort of recklessness. They say by their actions, if not in words, "Oh! who cares if it is Sunday? We are going to have some fun, and we can not afford to take the time on week days." Now, people who say this, either by word or by act, are not safe people to have charge of things. Not very long ago a young lady in our vicinity wanted to go down to Chippewa Lake on Sunday. As

there was no one ready or willing to go with her, she insisted on going alone and unattended. At the lake she met a crowd of reckless people like herself. Before night she was brought home a corpse, drowned in the lake. The young man who was with her in the boat saved himself but let her go. Do you not see, dear friends, the indications of this same reckless, defiant spirit running through all who join in with these gatherings? Do you want to be with such a crowd? If they do not always carry intoxicating liquors with them on Sunday outings, they will sooner or later. When you are tempted to call me superstitious because I say there are more likely to be accidents on Sunday than on any other day, please recognize that it is only a plain common-sense rule of cause and effect. I feel sure that each and every reader of these words can recall instances of more than one disaster that, as people often express it, "just happened" on Sunday.

By careful inquiry in regard to the cause of these two accidents, we find the one near Bridgeport, Ct., was where an overloaded trolley-car ran over a new bridge that was just completed, or perhaps not quite completed. A young lady who witnessed the accident says the car was going at a high rate of speed. The car contained 43 persons, 36 of whom met instant death—just what you might expect of Sunday work. In the other case, at Bar Harbor, Me., some 200 people crowded all at once on to the gang-plank in their hurry to get on the steamer. During week days there probably would have been officers stationed at each end of the plank to prevent an unreasonable number of people from crowding on to it. Don't you think, my friends, you had better keep out of the crowd that goes picnicking on Sunday?

PROMINENCE.

The following card was circulated at a meeting of the National Anti-saloon League held in Cleveland, O.; and, by the way, I think it is quite fitting that temperance people should have cards to circulate, as well as the saloon folks. Some of the latter I should not dare to copy on these pages, for our journal would be justly excluded from the mails. Here is the temperance card:

TEN GOOD REASONS WHY EVERY RESPECTABLE THINKING MAN SHOULD SWEAR JUST AS OFTEN AND AS HARD AS HE CAN.

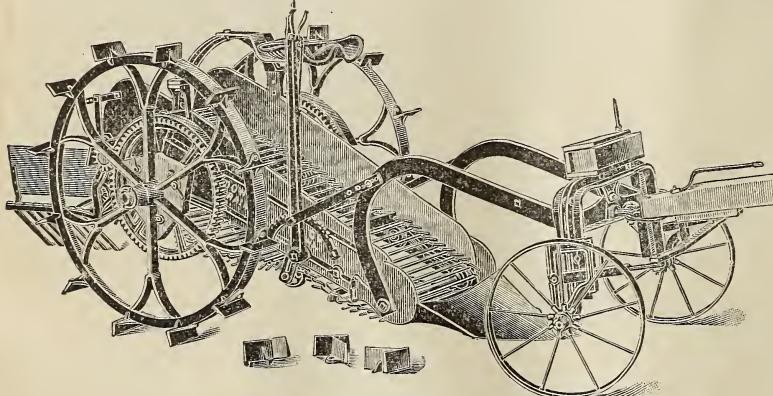
- 1.—Because it is such an elegant way of expressing one's thoughts.
- 2.—Because it is such a conclusive proof of taste and good breeding.
- 3.—Because it is such a sure way of making one's self agreeable to his friends.
- 4.—Because it is a positive evidence of acquaintance with good literature.
- 5.—Because it furnishes such a good example and training for boys.
- 6.—Because it is just what a man's mother enjoys having her son do.
- 7.—Because it would look so nice in print.
- 8.—Because it is such a good way of increasing one's self-respect.
- 9.—Because it is such a help to manhood and virtue in many ways.
- 10.—Because it is such an infallible way of improving one's chances in the hereafter.

* Let me call your attention again to the way the railroad companies advertise Sunday trips. Of late they have been avoiding the word *Sunday*. They simply say, "Only \$3.00 from Cleveland to Niagara Falls and return." Then they go on and tell all about the liberal and excellent accommodations for the trip. The posters will tell you it will start out, say, on the evening of Aug. 5; but when you go to your calendar and look it up you see Aug. 5 is Saturday, and so the whole program is arranged to occupy the entire Sabbath day. If they should talk right out plainly, and tell you what great doings there are going to be on *Sunday*, Aug. 6, it would jar on a good many people's sensibilities; so they are very careful to give simply the day of the month, and not talk right out in print about Sabbath desecration.



POTATO-DIGGERS.

Last fall I had considerable to say about potato-diggers; and I told you that, notwithstanding we had one of the highest-priced diggers made, yet on account of the wet weather we were obliged to put it away and use our old shovel-plow digger. I had quite a little correspondence with the manufacturers, and told them our troubles; and I finally suggested that, if I could see an expert working with a digger, even though the season was remarkably wet, perhaps we might get along a little better. To my surprise I found they had a testimonial from a neighbor living only about four miles away. I saw him after potato-digging was over, and he said they had dug all their own, and dug potatoes for their neighbors when it was so wet that no other digger could do any thing at all, and he proposed to come up here and show me how to



THE DOWDEN POTATO-HARVESTER.

use our own when this season was opened. Perhaps I should remark that his farm is mostly low muck ground, while we have a very sticky, tenacious clay when it is very wet. Well, this season, when our early potatoes were ready to dig, I thought I would try it on dry ground without waiting for my neighbor; and to my great surprise the machine put all the potatoes nicely on top of the ground the very first trial. The ground is so dry now, Aug. 10, that considerable of it breaks up in hard lumps, notwithstanding our thorough cultivation.

You will notice there are good-sized draft-wheels, so that nothing can stop the machinery short of a stone wedged between the chain and the shovel. The shovel is set by the hand lever so as to go just deep enough to get under all the potatoes, and no deeper. The dirt then goes up on the revolving chain, which gives it a thorough shaking, so that the chunks have to be extremely hard if they are not broken up. If they do not break up and

rattle through the chain, they go over with the potatoes. The rakes which you see on the rear of the machine run the potatoes all down in a straight pile, so you can dig every row as you go along without any danger of the horses or draft-wheels bruising the potatoes. The machine is exceedingly simple, and every thing that is liable to wear out has a movable box, or some equivalent, so the worn-out piece can be replaced at a very small expense. With the old digger we used to be obliged to go over our ground with cultivators and harrows, and keep picking up every time the ground was moved; and even after all this fuss and trouble, a great many nice large potatoes would be left in the soil. We know this, because they would be coming up the following spring all over the field; and in plowing the ground for other crops, either in the fall or spring, we would be always turning out large nice potatoes. With the machine illustrated above, you get all the potatoes the first time. I suppose they might be run into a bag or box; but as stones, lumps of dirt, and small potatoes, would go into this box also, it is generally thought best to let the pickers pick up what they want, and leave the

rest on the ground. Wilbur Fenn, of Tallmadge, Ohio, teaches his pickers to gather the first time only the No. 1 potatoes; then after the best ones are all put away he goes over the field the second time, and picks up the seconds—every thing in the shape of a potato, if I am correct. These seconds can be further sorted in the cellar during stormy days—that is, if the grower

has a market for seconds.

Perhaps I should add that we did all of our digging with our one heavy team; and although they are nearly twenty years old they walked right along with it, without any fuss at all. If we had potatoes enough to keep them steadily at it all day long it might be better to have three or even four horses. I suppose considerable would depend on how mellow the soil is.

I shall be glad to answer any questions in regard to this machine, or the manufacturers will send you catalogs, with letters from potato-growers who are using their machines, scattered all over the United States. Address the Dowden Mfg. Co., Prairie City, Ia.

THE DARLING STRAWBERRY — AT LEAST ONE GOOD REPORT.

The Darling I had from you two years ago was a grand success, although the first crop was quite cut off by frost just as they were ripening. The plants seem to stand the long-continued heat of this section best of any.

H. FITZHART.

Dalkeith, Fla., July 24.

SEVEN-TOP TURNIPS; HOW TO MAKE THEM BLOSSOM FOR THE BEES, WHEN DESIRED; THEIR VALUE FOR PASTURE, ETC.

I have had quite an experience with them. I have sown them for years for pasture and fertilizing, and I believe the bloom can be obtained in August, or any month after that it naturally blooms. I have kept it back for six weeks by letting my sheep graze it off. I will try it next year, and see how long it can be kept back, and then bloom. O. GLEASON.

Volney, Mich., July 14.

THE PORTER APPLE.

Friend Root:—On my place in Granger, Medina Co., some ten years ago, I had several trees of the Porter, which gave very abundant crops, and I always consider it a fine apple; but the reason I think it has not been generally planted is because its time of ripening is about the same as that old standby and well-known apple Queen Ann, which it resembles very much in shape and size, and time of ripening, but differs in color and flavor. Which is the better apple I think will depend on the taste of the eater. When I had Porters in abundance I wanted the Queen Ann, which was my favorite when I was a boy; but now when I have plenty of Queen Ann's I should like very much to have some of those Porters, such as I used to have. I do not think either apple can be ahead of the Maiden's Blush or Gravenstein as a fall apple. My brother said that, at the experiment station, the Maiden's Blush was the most profitable apple they have in their orchard at any season. Its handsome appearance pleases the grocers, and it cooks so nice it pleases the women; but for quality I don't believe that any fall apple can equal the Gravenstein. I have never heard before that the Porter was especially noted for its early bearing. Perhaps it was because you got a good tree and put it in a good place.

Medina, O., Aug. 5. E. C. GREEN.

But, friend G., the Gravenstein, Maiden's Blush, and Queen Ann, are all considerably later in our locality than the Porter. Our Porter apples ripened right along with the Early Harvest and Red Astrachan, almost a month before Maiden's Blush; and Gravenstein, in our locality, is not nearly ripe yet. I should put the Porter ahead of any of these, besides being so much earlier.



I have taken the liberty of extracting the following from a very kind letter:

Two years after we were married my wife became afflicted with a large ovarian tumor. The doctors failed to know what it was until she was very large; then we called in the elders to pray for her, and then she wanted to visit her folks in Pennsylvania. She was so bad and sore we had to carry her part of the way from the railroad to her home. Then we went to see a traveling specialist who claimed to remove tumors, cancers, etc., without a knife; but I soon saw that he was a terrible quack, and did not know as much about tumors as I did, and was *swiping* the people terribly (always beware of traveling specialists; a good specialist has more than he can do at home). Then we went to Philadelphia, and seemed to be providentially directed to the Jefferson Medical College Hospital, where they removed the 50-lb. tumor with the knife most successfully, and where she had the best of care and treatment, and remained there only 32 days, and it cost only \$32.00, and now she is stout and well again, and has two children.

About using tobacco, you say it is on the increase in some churches. Well, I am glad to say that, among our people (the Mennonites), it is on the decrease. I know quite a few old men who have quit, and among our ministers there is scarcely one in a hundred who uses it. In fact, among the 160 or 170 of them, whom I am acquainted with, I don't know of one who makes a practice of using tobacco.

East Lynn, Mo.

P. HOSTETLER.

Several valuable points in the above should be noted. First, the prayer was answered by directing the friends to the medical hospital, and I believe that is the true divine healing. God guides and directs us so we can avail ourselves intelligently of the best helps of modern surgery. Second, the point made about traveling specialists should have a still stronger emphasis. A good physician always has all he can do at home, without going about hunting up jobs. Third, there is one medical college, at least, that cures patients, and does not charge any extravagant prices either. I should say that \$32.00 for 32 days' treatment is very reasonable indeed. The fashion of charging \$400 or \$500, especially where the sufferer and his friends have but little means, is a shame and a disgrace to the present age. Friend H., I am exceedingly glad to know that tobacco is on the decrease in at least one of our Christian denominations.

PURE AIR, PURE WATER, ETC., INSTEAD OF DRUGS.

Forty-eight years ago I became an enthusiastic advocate of the hydropathic system of treating disease, which I consider specially valuable on account of its warding off the popular reckless use of drugs, consequently I read all you say on health in GLEANINGS, and am in accord with most of it (I got one of the sanitary stills lately). One year ago I got a copy of "The Home Handbook of Domestic Hygiene and Rational Medicine," by J. H. Kellogg, of Battle Creek, Mich. So complete, practical, and common sense is it in all its departments, it is deservedly the most popular treatise on the subject that I have ever seen, to enable sickly people to avoid being robbed and even killed in the strife to get money out of them. This makes it a "family physician" right in the family, to consult on all occasions. R. WILKIN.

Famoso, Cal., July 18.

MONEY LOST IN THE MAILED, ETC.

Pretty much all the time we are having more or less unpleasantness and hard feelings on account of lost money. Quite a number of the friends do not seem to appreciate the very thorough system and discipline that we keep up to see that there is no chance for blame or loss at our end of the route. When the sender declares the money was sent us, and we declare it never reached us, a good many times he thinks we are just as likely to be mistaken as he is. Perhaps I can make it clearer why we are not likely to be at fault, by a little explanation. We have had years of experience in this matter. The lady who opens the letters (Mrs. A. I. Root's sister) is not only an experienced hand in the work, but she has been blamed so many times she takes the utmost precaution. In the first place, the letters are opened on a large table, where nothing can be dropped. The letter and envelope are held in her fingers until she reads far enough to find out how much the writer says he incloses. Then, without laying any thing down, or mixing it up with any other business, she marks on the letter just what the envelope contains. If there is any disagreement, a shortage-card is addressed to the writer, giving him further facts in the case, while she holds every thing in her fingers. Furthermore, if there is a loss our postmaster is notified, and steps are taken to trace up the missing money as far as possible. The two following letters show up two

things: 1. The care with which Mrs. H. follows up every report of loss of money; 2. The mistakes that often happen in mailing letters.

A. I. Root Co.—On Apr. 5 I inclosed you \$1.00 for a Corniel smoker, and asked you to send it by return mail. I have not received either smoker, reply of any kind, nor any satisfaction whatever. Kindly give this your immediate attention and send it at once, as I need it badly. I am engaged in the bee business, and my smoker gave out. Please send it at once.

Greencastle, Pa., Apr. 24.

E. F. HESS.

You see our clerks did not drop the matter, even if the sender of the money did. She wrote again, asking him what he had found out in regard to the lost money; and I myself offered to send him a smoker at half price, under the circumstances, if the money could not be found, and here is his reply:

A. I. Root Co.—In reply to your letter regarding my lost money, I will say that, after waiting a reasonable length of time for my smoker, and it failing to come, I investigated the matter (as I did not mail the letter containing my money myself), and found the party to whom I gave my letter to mail never mailed it at all, but carried it in his pocket for several weeks, and finally discovered it, and gave me my letter and money back again. So I will release you from all blame. Many thanks to you for investigating the matter so thoroughly. I procured a second-hand smoker in the meantime, which seems to answer our purpose fairly well.

E. F. HESS.

Greencastle, Pa., May 2.

Humbugs and Swindles.

I inclose you circulars. Kindly look the same over, and let me know if this is not the Arctic Co. I always believed them to be the same. They defrauded me of \$5.00 for a freezer. I could obtain no satisfaction. I always intended to give them a free advertisement, but have neglected it.

O. L. SMITH.

Grand Coteau, La.

The circular inclosed hails from 109 East Sixth St., Cincinnati. It is entitled "The Alaskan Refrigerating Co." It is a little singular that the swindlers should send any machine at all, especially as the machines are of no use whatever after people get them. Their plan of getting money, however, is that the circular persuades the victim that he can, by taking the machine and exhibiting it, take orders almost everywhere. One person saw our notice in GLEANINGS after he had paid for his machine, and then wrote us, asking whether we thought it would work, without even having tried it. We told him to test it according to directions, by all means, and then report; but we have not heard from him since.

Special Notices by A. I. Root.

DWARF ESSEX RAPE.

Last fall, on one of my wheelrides, I passed a field of the above that stood two feet high or more, where it was sown in corn at the last time of cultivating. There was an immense sight of it in the field, and it was just a "sight." I think this was toward the first of November. During this present month and next is the time to sow it. We have a lot of very nice seed. Per pound, 12 cts.; 50 lbs. or more, 9 cts.; 100 lbs., \$8.00. If wanted by mail, add 8 cts. per lb. for postage. As with sweet clover, stock must be taught to eat it; but when they once learn what it is, you will have to be careful about letting them get too much of it at once. For sheep and lambs, perhaps there is nothing else equal to it. See leaflet, mailed free on application. It is so hardy that it will stand frosts and freezes, frequently clear up till Christmas.

CRIMSON CLOVER SEED—ADVANCE IN PRICE.

Some prominent agricultural writer said a short time ago that thousands of dollars had been wasted by farmers in the North in experiments on crimson clover. This may be true, but at the same time more and more people are succeeding with it, both north and south and east and west. The best evidence of this is that just now, when it is time to sow the seed, the price has rapidly advanced from \$2.50 to \$4.50 per bushel. At the present price it will pay well to grow the seed right here in our locality, aside from the tremendous value of the crop to the soil where it is grown. Seed can be sown among growing corn so as to produce a heavy crop of clover to turn under before corn planting time again next spring. The best prices we can possibly make now are, bushel, \$1.50; peck, \$1.25; pound, 15 cts.; 1 lb., by mail, 25 cts.

AMERICAN PEARL AND PRIZETAKER ONION-SETS.

Our crop of these is small this season, but they are extra fine. What we mean by this is, they are small-sized sets, from the size of a pea up to half an inch in diameter. These are worth ever so much more, because you get more of them in a quart, and they are not liable to send up seedstalks. Either kind may be planted out now, and with good underdrained ground they will, as a rule, winter over all right; but with our present short crop we can make no better price than 25 cts. per quart; by mail, postpaid, 35 cts. We have any quantity of the Egyptian or winter onion-sets at 10 cts. a quart; 50 cts. a peck; \$1.50 a bushel. Of these latter we can give you either large or small sets as you choose.

TRANSPLANTED POTTED STRAWBERRY-PLANTS.

As a rule I do not like to complain of others who are in the same line of business as myself; but I do think that people who are buying strawberry-plants in the fall ought to be kept posted in regard to the improvements that are being made in this line of business. For instance, several growers are advertising potted strawberry-plants by mail; and I have taken pains to order from some of those who send out magnificent catalogs especially devoted to potted strawberry-plants for fall planting. I have just received some potted plants from one of the largest seedsmen in the United States; and when I came to unwrap them and see the poor wilted things with little bits of roots, I really felt sorry for the great seedsmen; and I think I feel still more sorry for his customers if he sends to them such plants as he sends us. I am sending him trial orders every year, so I feel sure he is not making any improvement. I am forced to believe that neither he nor his brother-seedsmen know anything about strawberry-plants potted in jadoo. Let me tell you again how we do it.

Two-inch pots are filled with jadoo, sopping wet. A runner that has just begun to make root in the soil is pushed down into the middle of this ball of jadoo, and the pot, runner and all, is set by the mother-plant clear under ground. If it is a dry time the large plant is kept wet, and the ground around it. In five or six days the white young roots will be clear to the outside of the pot. The runner is then cut off, the plant is removed from the pot, and carried to the nursery. This nursery is a vat made of galvanized iron, any size that the business requires. I would have it so the usual shutters (or sash) used by gardeners will cover this nursery, say 3x6 feet, if for one shutter; and if you want it larger, twice that size or three times; that is, so as to hold one, two, or three shutters or sashes. This tank will hold water; but there is an opening with a plug so you can let the water off when it rains hard. This nursery is filled with rich compost—old stable manure, rotted sods, etc. These little plants are put in, say, 3 inches apart, each way, and are watered by sub-irrigation, which I suppose you all understand. Now, when new white roots have started out from the ball of jadoo, into the soil surrounding them, the plant is ready to send off by mail or express; and, oh my! what a contrast when the purchaser takes his plant out of the neat little mailing-box made of basswood! Why, the plant is so handsome after its long trip in the mails that it is just fun to carry one around and show it to people. We send out a good many plants with runners already started, so the purchaser may have a new plant from the one he purchased, in a week or two, providing he catches on to the plan described above, and keeps the new plant well watered if it does not rain. Any one who likes to fuss with plant-growing, as described above, may grow his own plants at a very insignificant cost after he once gets a few for a start, and the most severe drought does not hinder a particle. Keep your plants in the nursery until the fall rains come on, and put

them out in the field. I think I would shake off the most of the jadoo, or mix it well with the soil around the plant, for field planting, because the freezing and thawing of winter, and especially spring, is much more liable to throw out a plant grown in jadoo than where grown in ordinary soil, as the jadoo is so very light and friable. Now, I would recommend every strawberry-grower, who has not seen a potted plant as above, to order at least one for a sample. We have a very good stock on hand ready to ship, of nearly all the varieties mentioned in our catalog; and until further orders you may have any of them (including Nick Ohmer, Glen Mary, and Clyde) postpaid by mail for 4 cents each, or for 3 cents each by express, not prepaid. Fifty or more potted plants I think I would have sent by express.



MUTH JARS

We are notified of an advance of 20 per cent on Muth square glass honey-jars, so must raise our price to the following, to take effect at once: 5-oz. jars, one gross in box, with corks, \$8.25, or \$2.25 per 100; $\frac{1}{2}$ -lb. jars, one gross in box, with corks, \$4.40, or \$1.00 per 100; 1 lb. jars, half-gross in a box, with corks, \$5.70, or \$4.00 per 100; 2-lb. jars, half-gross in box, with corks, \$7.50.

POUDER JARS.

Notice slight advance in prices on Pouder square flint-glass honey-jars as follows: Crate of 100 16-oz. jars and corks, \$4.00; crate of 100 8 oz. jars and corks, \$3.00; crate of 100 5-oz. jars and corks, \$2.25.

ADVANCED PRICE LISTS.

As advised in our last issue, we append below new price lists on various lines of goods which go into effect at once. The advance on wire nails is much greater than I anticipated it would be. The manufacturers adopted, on July 20 a new list of prices on fine wire nails, which is about double the old list; hence the large advance on these sizes. The advance in perforated zinc has been in effect for some time, also part of the advance in Record nails.

Advanced price lists will follow in later issues on other items. When you take into consideration the fact that the different grades of lumber that we use in the manufacture of goods have already advanced 20 to 80 per cent, and that every prospect points to still further advances, also that wire nails and other wire products have doubled in price; that tin plate has advanced 70 per cent, and is likely to go still higher, and other metals in like proportion, you must not be surprised at a much less percentage of advance in the price of manufactured products. With all these advances comes also an advance in the cost of labor, which enhances the cost of manufacture as well. Our profits have not been such as to enable us to pay all these advances and still sell goods at the same old price; hence the necessity for marking prices up.

HONEY-BOARDS.

R before the number indicates Root zinc, and T indicates Tinker zinc. Order by number and name, and carry out the price.

No.	Name and Size.	Price of 10.	Weight of 10.
R 1	10-frame unbound zinc, 14x19 $\frac{1}{4}$	\$1.60	9 lbs.
R 1	10-frame unbound zinc, 14x19 $\frac{1}{4}$	2.00	9 lbs.
R 11	8-frame unbound zinc, 12x19 $\frac{1}{4}$	1.40	8 lbs.
T 11	8-frame unbound zinc, 12x19 $\frac{1}{4}$	2.00	8 lbs.
T 9	8-frame wood-zinc, 13 $\frac{1}{2}$ x20.....	2.20	13 lbs.
T 10	10-frame wood-zinc, 16x20.....	2.40	14 lbs.
R 12	10-frame wood-bound zinc, 16x20...	2.00	11 lbs.
T 12	10-frame wood-bound zinc, 16x20...	2.40	11 lbs.
R 13	8-frame wood-bound zinc, 13 $\frac{1}{2}$ x20	1.80	10 lbs.
T 13	8-frame wood-bound zinc, 13 $\frac{1}{2}$ x20	2.20	10 lbs.

Root zinc strips, 1 row holes, $\frac{1}{8}$ x18 to 19 $\frac{1}{4}$, per 100, \$1.10. Tinker zinc strips, 2 rows holes, $\frac{1}{8}$ x18 to 20, 100, \$1.50. Root zinc sheets, 28x36 inches, each \$1.60. Tinker zinc sheets, 24x40 inches, each 80¢. Cut pieces of Root zinc, 12c a ft.; Tinker zinc, 15c a ft. Entrance-guards, Tinker zinc, \$1.00 for 10. Entrance guards, Root zinc, 75c for 10. Either 8 or 10 frame size.

TINNED WIRE.

Sizes furnished.	Price each doz.	Post. each.
$\frac{1}{2}$ -oz. spools No. 30 tinned wire.....	\$ 03	\$ 30 02
$\frac{1}{2}$ -lb. spools No. 30 tinned wire.....	12	1 20 06
$\frac{1}{2}$ -lb. spools No. 30 tinned wire.....	18	1 80 10
1-lb. spools No. 30 tinned wire.....	30	3 00 18
5-lb. coils No. 30 tinned wire.....	90	

GLASS FOR SHIPPING-CASES.

	Price, 10	Price, 100	Bx. of 50 ft. No.	Price.
3x17 $\frac{3}{4}$ or 18 for 4-row cases.....	35	\$3.00	133	\$3.75
3x18 $\frac{1}{4}$ for 3-row cases	25	2.00	171	3.25
3x9 for 2-row cases	20	1.50	267	3.25
2x17 $\frac{3}{4}$ or 18 for 4-row cases.....	20	1.50	200	3.00
2x18 or 18 $\frac{1}{4}$ for 3-row cases.....	12	1.00	236	2.50
2x9 for 2-row cases	10	.75	400	2.50
3x16 $\frac{1}{2}$ or 17 for 4-row 4x5 cases.....	35	3.00	140	3.75
3x15 for 4-row 3 $\frac{1}{2}$ x5 cases.....	25	2.10	160	3.25
3x12 $\frac{1}{2}$ or 11 $\frac{1}{2}$ for 3-row 3 $\frac{1}{2}$ x5 cases.....	20	1.75	200	3.25

SQUARE CANS.

No. in a box.	Capacity of each can in gallons.	Price of 1 box.	Wt. of 1 box.
	in honey.	10 bx. 10 bx.	
1	5-gal. can boxed	60 lbs. \$ 50	4 60 10 lbs.
2	5-gal. "	60 " 85	8 00 20 "
10	1-gal. "	12 " 1 60	15 00 20 "
12	$\frac{1}{2}$ -gal. "	6 " 1 60	15 00 20 "
24	$\frac{1}{4}$ -gal. "	3 " 2 80	27 00 25 "
100	1-gal. "	12 " 18 00	120 00 110 "
100	$\frac{1}{2}$ -gal. "	6 " 11 00	100 00 80 "
100	$\frac{1}{4}$ -gal. "	3 " 10 00	90 00 60 "

TIGHT-SEAL COVER PAIL.

	Capacity, lard — honey.	Price	Wt.
	1 lb.	10 100	100
No. 1 seal-cover pail....	1 lb. $\frac{1}{2}$ lbs.	8 75	7 00 45
No. 2 "	2 lbs. 3 "	9 85	8 00 60
No. 3 "	3 " $\frac{1}{2}$ "	11 00	9 50 70
No. 5 "	5 " $\frac{1}{2}$ "	13 10	20 11 00 90
No. 10 "	10 " 15 "	18 10	15 50 140
Improved Dadant pail..	5 " $\frac{1}{2}$ "	10 90	8 50

FLAT-HEAD WIRE NAILS.

Cement-coated, except first three.

L'gth.	Wire Gauge	No. in 1 lb.	Wt. of 5c pkg.	Price of 1 lb.	10 lbs.
$\frac{3}{4}$ in.	No. 21	17,500	1 oz. .45	\$4.00	\$37.50
$\frac{3}{4}$ "	" 20	10,000	2 oz. .30	2.80	25.00
$\frac{1}{2}$ "	" 20	7,500	2 oz. .25	2.30	21.00
$\frac{5}{8}$ "	" 19	4,200	2 oz. .20	1.80	16.00
$\frac{3}{4}$ "	" 18	2,700	4 oz. .16	1.40	12.50
$\frac{7}{8}$ "	" 18	2,350	4 oz. .15	1.30	11.00
1 "	" 18	2,000	4 oz. .14	1.20	10.50
$\frac{1}{4}$ "	" 17	1,200	4 oz. .13	1.10	9.50

STANDARD (D) WIRE NAILS.

All cement-coated.

Style.	Length.	Wire Gauge.	No. Nails in 1 lb.	Price of 10	Price of Keg.
2d fine.	1 in.	No. 17	1440	10	\$5 86 45
3d "	" 16	1000	9	80	6 15
4d box.	1 $\frac{1}{2}$ "	15 $\frac{1}{2}$	550	9	75 5 80
5d "	1 $\frac{3}{4}$ "	14 $\frac{1}{2}$	316	9	75 5 65
6d "	2 "	13	250	8	70 5 45
7d "	2 $\frac{1}{2}$ "	13	236	8	70 5 45
8d "	2 $\frac{1}{2}$ "	12	157	8	70 5 30
9d "	2 $\frac{3}{4}$ "	12	130	8	70 5 30
10d "	3 "	11	107	7	65 5 20
4d casing.	1 $\frac{1}{2}$ "	15	550	9	75 5 80
6d "	" 13	250	8	70	5 45
8d "	2 $\frac{1}{2}$ "	12	157	8	70 5 30
3d common.	1 $\frac{1}{2}$ "	15	615	8	70 5 75
4d "	1 $\frac{1}{2}$ "	13	322	8	70 5 45
5d "	1 $\frac{3}{4}$ "	12 $\frac{1}{2}$	254	8	70 5 30
6d "	2 "	12	200	7	65 5 30
7d "	2 $\frac{1}{4}$ "	11 $\frac{1}{2}$	154	7	65 5 30
8-9d "	2 $\frac{1}{2}$ "	10 $\frac{1}{2}$	106	7	65 5 15
10d "	3 "	9 $\frac{1}{2}$	74	7	60 5 05
16d "	3 $\frac{1}{2}$ "	8	46	7	60 5 00
20d "	4 "	6	29	7	60 4 90

Superior - Italian - Queens.

Having purchased one of the daughters of W. Z. Hutchinson's one-hundred-dollar queen, advertised in Gleanings. I am now breeding from her, and the queens are fine indeed. They are reared under the most favorable conditions, by Doolittle's method. Fifty cents each; $\frac{1}{2}$ doz., \$2.50; dozen, \$4.50. Safe arrival.

W. J. FOREHAND, - FORT DEPOSIT, ALA.

QUEENS, QUEENS, QUEENS. By Return Mail.

Bred from imported mothers; dark leather-colored stock; extra honey-gatherers; also from light yellow and albino strains at very low prices. My stock is of the best. Forty years' experience warrants me in saying this.

Select tested.....each, \$1.50.

Warranted purely mated.....each, .75.

Warranted purely mated.....six, 4.00.

Warranted purely mated.....dozen, 7.00.

Send for 40 page catalog of bees and queens; also a full line of bee-keepers' supplies, including The A. I. Root Co.'s goods at their prices.

W. W. CARY, - Lyonsville, Mass.

In writing, mention Gleanings.

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J. D. GIVENS, Lisbon, Texas.

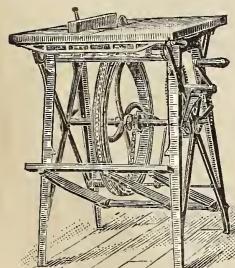
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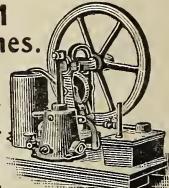
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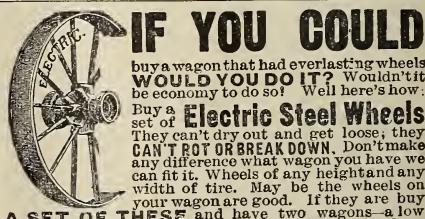
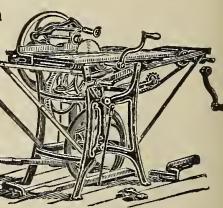
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Any one (even boys and girls) can make money fast growing and selling Pansy Plants. Be sure and plant the BEST SEED, and sell them when they begin to bloom. You have no idea how readily they sell at big prices. Friend Cook is almost giving away his choice Pansy Seed—50 varieties. See page 629. Now is the time to plant them.